RPP-12293
Revision 0

COMPLETION REPORT FOR PROBE HOLE C3831 (TX-107) TX TANK FARM 200 WEST AREA

M. G. Gardner
K. D. Reynolds
D. E. Skoglie
Duratek Federal Services, Inc., Northwest Operations

October 2002

Prepared for the Office of River Protection, CH2M HILL Hanford Group, Inc.
Richland, Washington

CONTENTS

APPENDICES

LIST OF FIGURES AND PLATE

LIST OF TABLES

TERMS

BGS	below ground surface
cm	centimeter
DOE	U.S. Department of Energy
ft	foot
ft•lb	foot-pound
in.	inch
pCi/g	picocuries per gram

COMPLETION REPORT FOR PROBE HOLE C3831 (TX-107) TX TANK FARM 200 WEST AREA

1.0 INTRODUCTION

The U.S. Department of Energy (DOE) assigned the River Protection Project Single-Shell Tank Program the tasks of transferring waste from the single-shell tanks to double-shell tanks and developing and implementing a strategy to retrieve single-shell tank and miscellaneous underground storage tank waste. In support of the eventual retrieval of this waste, the Single-Shell Tank Program Vadose Zone Project was given responsibility for collecting and providing subsurface data from the single-shell tank farm facilities. This data is intended to provide an understanding of the distribution and movement of contaminants in the vadose zone under and adjacent to the tank farms. Subsequently, a work plan was prepared to collect field characterization data in and near Waste Management Area TX. This planned activity is intended to support decision-making relative to DOE/RL-99-36, *Phase 1 RCRA Facility Investigation/Corrective Measures Study Work Plan for Single-Shell Tank Waste Management Areas*. The document, RPP-7578, *Site-Specific SST Phase 1 RFI/CMS Work Plan Addendum for WMAs T and TX-TY*, was necessary to identify and plan characterization efforts as part of DOE/RL-99-36.

The data requirement goals identified through a data quality objective process are documented in RPP-7578. The outlined goals include the tasks, project responsibilities, and schedules for the characterization efforts. One of the identified field characterization efforts is the collection of vadose zone data from the installation of up to four closed-end probe holes in the TX tank farm.

Utilizing RPP-7578 as guidance, DFSNW-DOW-006, *Description of Work: Drilling and Sampling* was prepared defining the methodology and actions for drilling and sampling a series of probe holes in the TX tank farm. This report provides information for the planned series of probe driving activities. DFSNW-DOW-006 included selected sampling depths, borehole construction and sampling methodologies, geophysical logging requirements, decommissioning directions, environmental health and safety program directions and quality control drivers. This probe hole completion report is a summary of activities and sampling efforts for the placement of probe hole C3831 adjacent to tank TX-107, the second in the series planned under DFSNW-DOW-006. See Figure 1 for a location map of the 241-TX tank farm and Figure 2 for a detailed location map of C3831 and other wells, probe locations, and tanks in the project area. Appendices to this completion report contain copies of the following documentation generated during performance of the outlined work:

- Field activity reports (Appendix A)
- Geologic/Sample logs (Appendix B)

- Geophysical logs (Appendix C)
  - High-Purity Germanium (HPGe) and moisture logs from probe hole C3831

- Chain of Custody/Sample Analysis Requests (Appendix D [includes summary sheets])

- Field documentation (Appendix E)
  - Casing driving blow counts
  - Pipe tally sheets

- Field logbook entries (Appendix F)

- Equipment cleaning forms (Appendix G)

- Washington State Department of Ecology (Ecology) documentation (Appendix H)
  - Start and decommissioning cards
  - Completion report with Final As-Built.

Figure 1. Location of 241-TX Tank Farm.

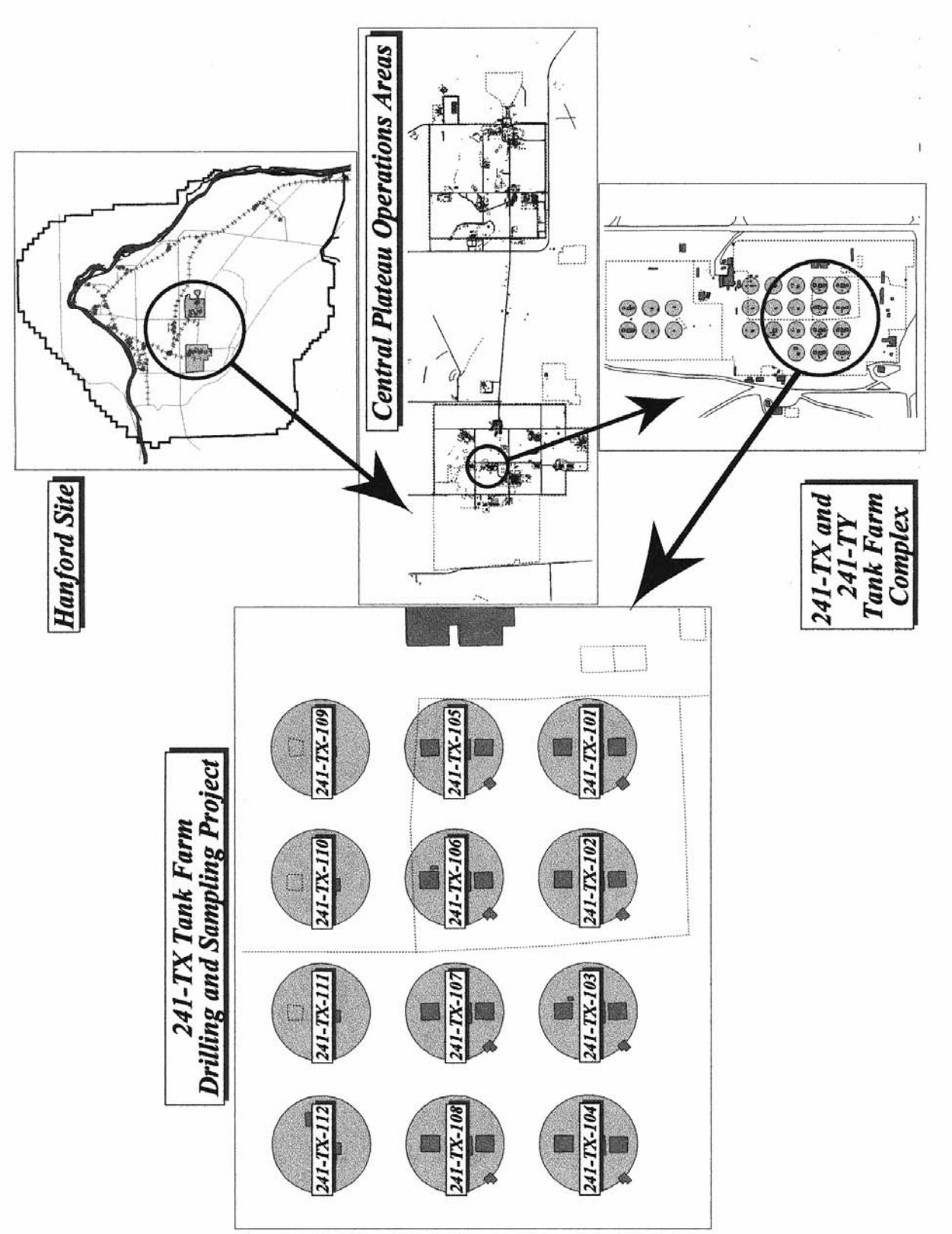
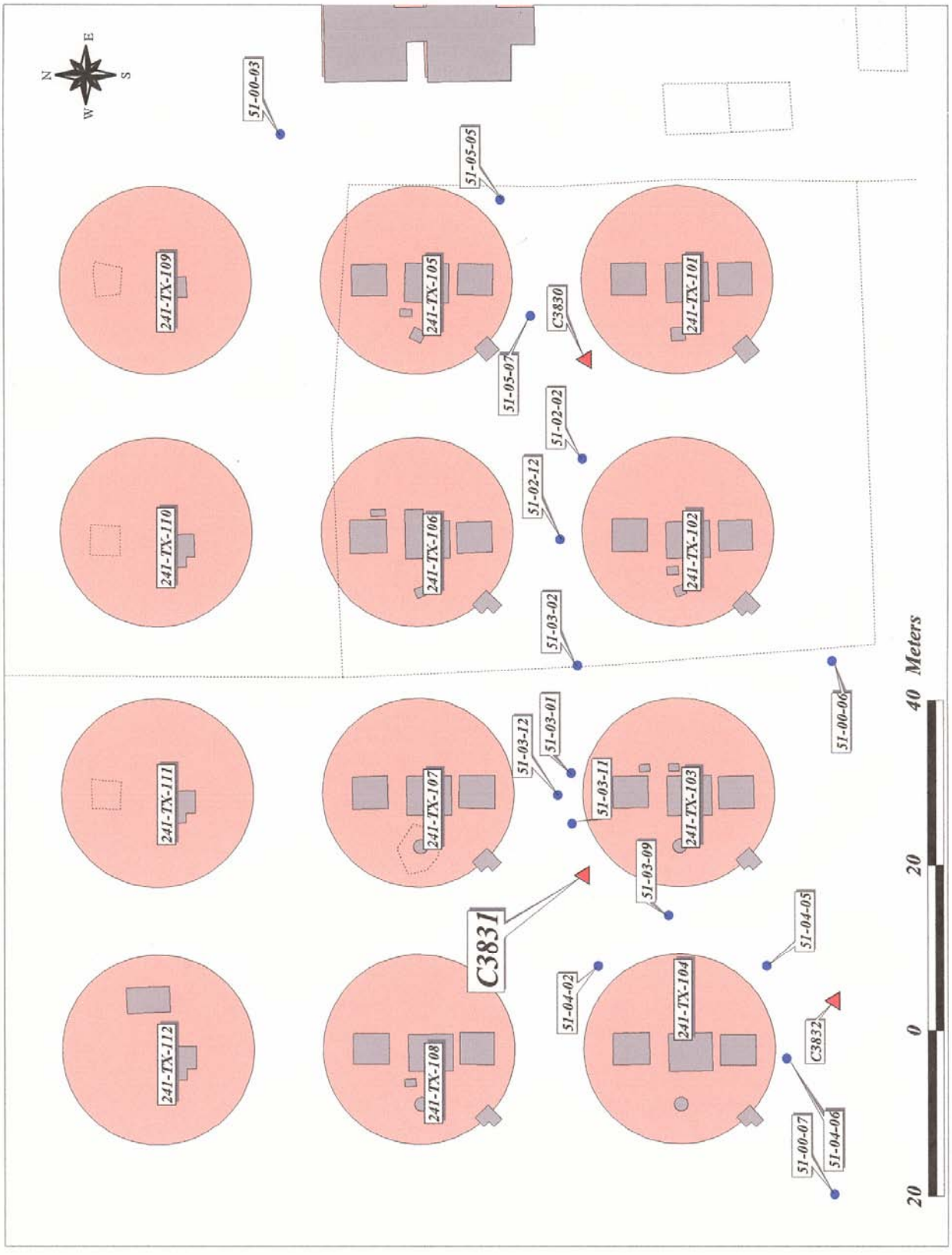


Figure 2. Location of C3831 and Other 241-TX Tank Farm Wells, Probes, and Tanks.



2.0 SUMMARY OF ACTIVITIES

Duratek Federal Services, Inc., Northwest Operations (DFSNW) began preliminary design and procurement planning for samplers, casing jacks and wrenches in support of the TX scope of work in late January 2002. This was followed by procurement of the necessary field equipment and support (drill pipe, casing, casing tips and shoes, samplers, casing and drill pipe wrenches, casing jacks and contracting for drilling support) in February and March. Fourteen dry wells in the vicinity of the planned probes were selected for moisture logging and were logged and analyzed by late February 2002. Concurrent with equipment procurement, moisture logging and analysis, DFSNW-DOW-006 was prepared and submitted. The purpose of DFSNW-DOW-006 is to guide field activities, call out selected sample depths and provide documentation of planned activities to tank farm operations. The first probe hole of the series (C3832) adjacent to single-shell tank TX-104 was completed during May and June of 2002, and the second of the series, C3831, adjacent to tank TX-107, was completed by August 14.

Field activities relating to C3831 (the second of the three planned probes) commenced with mobilization of the probe driving platform and support equipment from C3832 (TX-104) to the C3831 (TX-107) probe site on June 28. Field Activity Reports were generated by DFSNW field oversight personnel for each day of the deployment and copies are included in Appendix A. Excluding weekends and holidays there were 31 field days associated with mobilization, drilling, sampling, logging, decommissioning, and de-mobilization related to probe hole C3831. The total days on location included 1½ days of rig-up activities, 2 days for borehole decommissioning, 2½ days of geophysical logging, and 15 days of driving casing and sampling. The remaining 10 days onsite were stand-by days due to adverse weather (wind delays 2½ days) and rig repairs (8 days). From July 9 through July 25 high daytime temperatures had some affects on crew efficiencies. CH2M HILL Hanford Group, Inc., health and safety procedures require Wet Bulb Temperatures to mandate work/rest regimens for personnel subjected to temperature extremes. Ten days in this time period had high temperatures (occasionally in excess of 100 degrees Fahrenheit). As the temperature increases throughout the day the work/rest regimen changes to provide adequate cool-down time for the affected workers. This work/rest time is outlined in the CH2M HILL Hanford Group, Inc., health and safety requirements (HNF-IP-0842, *RPP Administration*). Because of this potential hazard to worker safety and the work/rest regime effect on efficiencies, the work schedule was changed to night shift (11:30 PM to 8:00 AM) on July 29 and remained as a night shift until August 9. The total sampled depth of 115.37 ft below ground surface (BGS), as measured by steel line tape, was reached on August 7. At this depth the probe casing was at a total of 114.12 ft BGS and was at refusal. Blow counts exceeded manufacture's recommended numbers per advance depth at this point. Prior to decommissioning, geophysical logging was completed to total depth with moisture and HPGe spectral gamma detectors. Decommissioning of the borehole commenced on August 13, and was completed on August 14.

Twenty (20) split-spoon samples, 1.25 ft long x 2.5 in. in diameter, were collected at specified depths for potential chemical and radiological analysis during the drilling/driving of this probe. (See Appendix D for information regarding sample depth, Chain of Custody, etc. and Appendix B for geologic descriptions of the samples retrieved). One zone (sample number S02057-08 collected from 60.08 to 61.5 ft BGS) displayed indications of excess or free water

after sampling. When the sampler was removed from the borehole free water had been forced from the vent hole at the top of the sampler liner chamber. Before the hole was advanced beyond this depth, driving activities were placed on stand-by, minor rig repairs and wrench/casing jack maintenance were completed and the probe hole was monitored approximately four hours for accumulation of free water by use of e-tape measurements (no free or standing water was observed). Sampling results are discussed further in Section 3.2.1. No radiological contamination was detected by field instrumentation during the driving and sampling of probe hole C3831; however, HPGe spectral logging did identify high levels of ^{60}Co at 61.5 and 68.5 ft. BGS where total gamma counts exceeded 5,000 counts per second. The spectral logging also identified ^{137}Cs above background levels from surface to approximately 3 ft BGS with a peak of 2.5 pCi/g at 0.5 ft. The ^{60}Co detections extended from approximately 52 ft BGS to the total depth of the probe advance. In the zones of high gamma counting (61.5 and 68.5 ft BGS) spectral analysis indicates 60.8 pCi/g of ^{60}Co (highest rates analyzed). See Appendix C for borehole geophysical analysis results.

The position of this boring was initially located by CH2M HILL Hanford Group, Inc. DFSNW personnel subsequently documented the location at Easting 566732.93 m, Northing 136167.19 m at an elevation above sea level of 205.68 m (-674.63 ft) by use of Global Positioning Satellite instrumentation.

3.0 DRILLING AND SAMPLING DETAILS

3.1 DRILLING

Per the referenced description of work (DFSNW-DOW-006), the casing utilized was a design configuration proven at the SX-108 Slant Borehole Project; e.g., P-110 carbon steel, 18 cm (7-in.) OD x 13 cm (5-13/16-in.) ID with a pin pile thread. Details of the design configuration and methodology are discussed in RPP-6917, *SX-108 Slant Borehole Completion Report*. The majority of the casing string was composed of 5-ft joints with several 2-, 3- and 4-ft joints for positioning the probe end at proposed sampling intervals. Based on engineering calculations, prior testing and previous success at SX-108, the thread pattern was selected to withstand the expected driving force as well as the maximum pull back capacity of the selected casing jacks. The drilling rig was equipped with an ICE-40 pile driver, which delivers approximately 40,000 ft•lb of force in the vertical position. The rig, pile driver and remote handling arm configuration were successfully utilized previously for the SX-108 Slant Borehole project. The pile driver provided adequate force to drive the casing to a total depth of 114.12 ft BGS. At approximately 115.1 ft BGS the highly cemented facies of the Cold Creek sediments were encountered by a split spoon advanced ahead of the casing. Blow counts indicated refusal and no further casing advance was attempted. Because of lessons learned from the C3832 (TX-104) effort, a larger and thicker base plate with attachment points for the jacks was designed and procured to control the jack position and aid in casing alignment. Figure 3 is the engineering drawing utilized for fabrication of the base plate. Additional effort was directed to train the pile-driving platform operator to align the pile-driving hammer, rig mast and jacks more precisely

Replace this and the following page with the Jack Support Sketch (11” x 17” foldout [pp. 7/8]).

prior to initial casing driving. These changes resulted in the casing for C3831 being less than one-half of one degree out of vertical (as measured at surface) during driving.

No problems with handling or making up the casing were encountered. Minor problems with operation and maintenance of the wrench breakout and jack system continued during the activities for this probe hole. Approximately 10 hours of operational time were expended adjusting, cleaning and realigning the jacks, wrenches and driving apparatus during the 15 days of driving activities. Modification and redesign of the system are still ongoing. Improvements completed have resulted in an overall reduction of pipe handling, make up and trip times by approximately 10–15%. Improved crew work efficiencies have also contributed to these improvements in performance. The casing was made up to manufacturer's torque specifications (5,000 ft•lb). Following removal of the casing from the borehole, the entire casing string was visually inspected. The casing shoe was found to be significantly damaged and was taken out of service. Before it had to be replaced, this shoe had been utilized for both the C3832 and C3831 probe holes. A large gouge or crease was evident on the shoe face. The damaged shoe was removed and replaced prior to initiation of driving activities at the next location C3830 (TX-105). The visual inspection did not indicate any other damage to the casing, drive point or inner drive string.

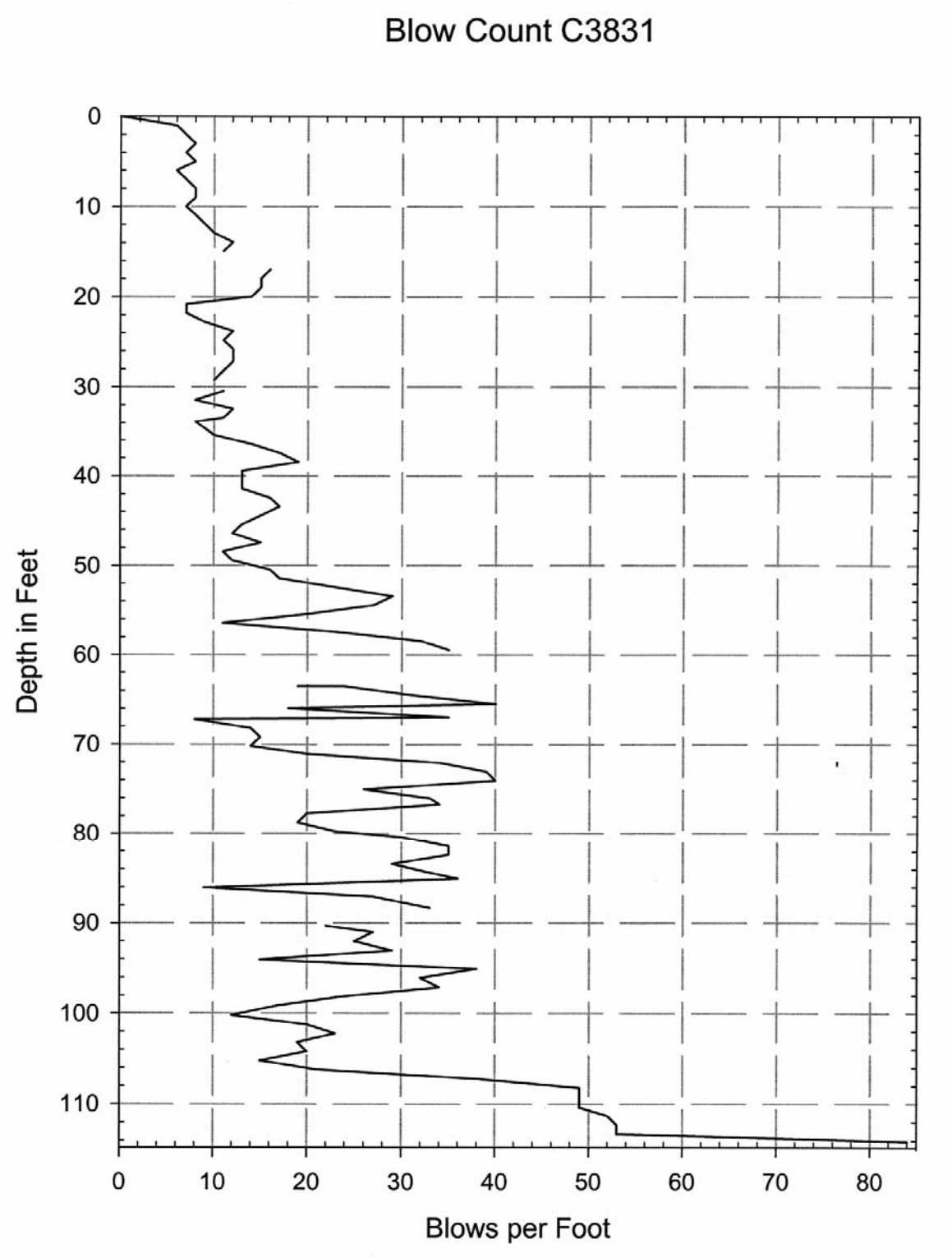
3.1.1 Casing Driving

To accomplish the objectives of acquiring samples the casing was driven in a closed configuration (e.g., removable tip in place) to the planned sample depths, and the tip and inner rod were then removed. A sampler was placed on the rods, inserted through the casing to total depth and the pile driver was utilized to drive the sampler ahead. The probe hole is advanced in this manner until total planned depth or refusal is encountered. The manual used by ICE operators defines refusal as less than one inch of advance gained for 10 full hammer blows.

Blow counts vs. advancement of the casing were recorded and, as expected, varied over depth. Field records (blow counts recorded during driving of the casing to total depth) and Table E-1 of the blow counts recorded per length of casing advance are provided in Appendix E. Tracking and comparison of blow counts when utilizing this type of pile driver for engineering purposes is complicated by the fact that the hammer reacts to the resistance of the probe to advance. When little resistance is encountered, the hammer does not stroke to its full length and less than the maximum 40,000 ft•lb is applied at that point. When resistance to the advance of the probe increases, full hammer strokes occur and the full potential force of the hammer is used to advance the casing. Figure 4 is a graphic representation of the blow count vs. depth for C3831. At a depth 112.28 ft BGS the blow count increased from an average of 49–53 blows per foot to 84 blows per foot. This increased resistance to driving was interpreted as increased resistance to casing advance caused by the silt of the Cold Creek facies. The contact of the Cold Creek facies with overlying Hanford sand and silts is estimated to have occurred at approximately 110.8–111 ft BGS (no samples were retrieved from this interval). Casing refusal (blow counts in excess of 10 blows per inch) occurred between 113.9 ft and 114.12 ft BGS. Between these depths more than 26 blows per inch were required to advance the casing the .22 ft difference. The contact between the carbonate-rich sands and silts and the highly cemented zones was observed to have

occurred at 114.8 ft BGS in a sample collected from 114.12 to 115.37 ft BGS. A sampler was advanced to a total depth of 115.37 ft, and no further casing advance beyond 114.4 ft was attempted.

Figure 4. C3831 Blow Counts—Depth vs. Blow.



3.1.2 Split-Spoon Sampler

A split-spoon sampler with an additional inner steel liner for increased structural strength was specially designed for collecting sediment samples ahead of the driven casing. This sampler collects a 2.5-in. x 1-ft driven sample. The sampler body is designed to house the split liner and the sample liners. For this scope of work a sampler utilized in the SX-108 Project was redesigned to accommodate larger liners (2.5-in. vs. 2-in.) through removal of the lead shielding utilized for the previous deployment. Removing the shielding and increasing sample size were undertaken because of the lower expected contamination levels when compared to the previous deployment. This lower expected level of radioactive contamination allowed larger volumes of soil with less shielding to be safely handled at the surface in the field and at the laboratory. The sampler is deployed and advanced by use of an inner string of 4.5-in. drill pipe.

Sample handling and any potential contaminate spread, as well as potential exposure of onsite personnel were minimized by capping the bottom of the split-spoon sampler, placing it in a transport container and using the remote-handling arm. The complete split-spoon assembly was placed in a transport drum and transported to Pacific Northwest National Laboratory with the sample intact in the split spoon. The laboratory performed the breakout of the samples from the split spoon and extruded the soil from the liners. No onsite breakdown of the samples was performed.

3.2 SAMPLING

3.2.1 Soil Sampling

During advancement of the borehole, sampling was attempted 19 times using a split-spoon sampler. Utilizing the diesel pile-drive hammer, the split spoon was driven a minimum of 1.25 ft into the bottom of the borehole at each selected sample location. Overdriving of the sampler on the C3832 (TX-104) probe hole had resulted in problems in the laboratory when attempting to remove the samples from the stainless steel inner liners. For the previous probe hole many of the samples were driven 1.4 ft or greater. During sample driving at C3831, greater precautions were taken to limit driving lengths, and the majority of the samplers were driven 1.3 ft or less (12 of the 19 did not exceed 1.28 ft driven length). No sample over-compaction problems were reported by the laboratory for removal of the samples retrieved from C3831.

Projected target depths for sample collection were first outlined in the referenced RFI/CMS documentation (RPP-7578) prepared by CH2M HILL. Further refinement of the preferred sample depths was derived by performing moisture logging in 14 dry wells surrounding all of the proposed probe locations in the TX Farm. To accomplish the target refinement, cross section correlations of observable and identifiable geologic features were prepared from the logging data. These features were compared to the sample depths identified in the RFI/CMS (RPP-7578) and with the approval of the CH2M HILL Project Lead, sampling targets based on projected geologic features (e.g., facies contacts, grain size changes, features such as tank excavation compaction zones) were selected and documented in DFSNW-DOW-006. Table 1 below

provides information on targeted sample depths, actual sample depths, generalized geophysical log detections and sediment types for the interval and recovery percentages.

Table 1. Sample Depths.

Targeted by Rpp Depth in feet	DOW Target depth for C3831	TX-107 (C3831)	Log detections/Sediment	Recovery
1) 15	15-16	14.93-16.21	no remarks/backfill gravel	100%
2) 22	21-22	20.8-22.3	no remarks/backfill gravel	100%
3) 30	28-29	27.96-29.21	moisture (m) increase/backfill sndy gravel	100%
4) 39				
5) 45	45-46	45.06-46.39	m peak/ backfill-silty snd-	100%
6) 52	51-52	51.06-52.36	m inc-t. gamma inc-Co 60 det/Hanford sndy gravel	100%
	52-53	52.16-53.51	t. gamma decrease/ sndy gravel	100%
7) 59	59-60	59.04-60.24	m peak-t. gamma peak-Co 60 peak/sand-sandy silt	100%
	60-61	60.08-61.5	peak t. gamma-Co 60/silty sand-sand	100%
8) 65				
	67-68	67.19-68.54	m peak-t. gamma peak-Co 60peak/sand-slty sand	100%
	69-70	68.43-69.98	dec m-t. gamma & Co 60/sand w slt inter bds	100%
9) 75	74-75	74.04-75.3	dec m-t. gamma & Co 60/coarse snd to slt interbds	100%
	77-78	76.73-77.98	large m dec-t. gamm & Co 60/ snd-slt interbds	100%
	78-79	77.76-79.04	large m dec-t. gamm & Co 60/ snd-slt interbds	100%
10) 80				
11) 85	85-86	85.05-86.3	low m-low t.gammaCo 60 low/slt-fine snd bds	95%
12) 90	88-89	88.3-89.75	m inc-minor t. gamm peak-Co 60 inc/med snd	100%
	93-94	93.05-94.3	decrease m -t. gamma-no chg Co 60/med-fine snd	100%
13) 98	97-98	97.11-98.38	variable m-low t. gamma & Co 60/slt-snd interbds	100%
	100-101	100.2-101.65	low m-t. gamm & Co 60/slt-snd interbds	100%
	102-103	101.63-102.98	low m-t. gamm & Co 60/slty sand	100%
14) 105				
15) 110				
16) 115	114-115	114.12-115.37 Refusal	dec m-t. gamma-Co60 changes/CaCo3 snd-cement	100%
17) 123				
18) 130	130-131			
19) 140	134-135			
20) 150	146-147			

Of the 20 samples collected, 37 six-inch liners were 100% full on recovery. One top liner from Sample S02057-14 taken at 85.05 ft to 86.3 ft was not 100% filled. At the time of this report no detailed information relating to laboratory-derived soil moisture content, sample radiochemistry or chemical contamination is available. As related in the summary section, several samples were taken in zones that had notable physical and/or geophysical characteristics. Sample S02057-08 collected from 60.08 ft to 61.50 ft BGS displayed indications of excess or free water after sampling. Subsequent moisture logging indicated that the particular zone had between 10% and 12% volume moisture content, and when the sample was removed from the liner in the laboratory the sediments were described as very moist. The sediments were interpreted to be interbedded silt and fine sand facies of the Hanford Formation. Observation of the probe hole after sampling did not indicate that water content was at saturation levels for the interval; and, as noted above, neutron-moisture logging supports the conclusion that the zone was not saturated. Sample S02057-08 taken from 60.08 ft to 61.5 and samples S02057-09 and 10 taken from 67.19 ft to 69.98 ft BGS were collected from depths that subsequently were noted by spectral analysis to contain the highest ^{60}Co detections in the probe hole. At 61.5 ft and 68.5 ft BGS, spectral logging analysis indicates that the ^{60}Co concentrations are 61 pCi/g. Descriptions of the

sediments retrieved in the 20 samples are found in Appendix B and Plate 1 (a graphic depiction of the geophysics, expected lithologies and retrieved samples with sample descriptions and formation contact depths).

3.3 GEOPHYSICAL LOGGING

Prior to the initiation of probe driving activities, open dry wells in the vicinity of the probe locations were reviewed for accessibility. Fifteen wells were selected for potential logging. See Figure 2 for the location of the wells selected (marked with tank farm well numbers, for example 51-04-05). Fourteen of the wells were subsequently logged by DFSNW with neutron-moisture instrumentation developed specifically for use at Hanford by DFSNW and analyzed for percent volume moisture content. Results of this logging scope (log plots, log data reports and analysis reports) were reported in Appendix C in the Completion Report for TX-104 C3832. Correlation cross-sections utilizing these logs were generated to select sample depths for the probe locations. Table 2 below lists the dry wells utilized for cross section correlation.

Table 2. Dry Wells Utilized for Cross-Section Correlation.

1. 51-00-07
2. 51-04-06
3. 51-04-05
4. 51-03-09
5. 51-04-02
6. 51-03-11
7. 51-03-12
8. 51-03-01
9. 51-03-02
10. 51-00-06
11. 51-02-02
12. 51-05-07
13. 51-05-05
14. 51-00-03

When C3831 probe reached refusal (total depth) the inner drill string and tip were removed and geophysical logging was conducted utilizing DFSNW equipment and personnel prior to decommissioning of the probe hole. Appendix C contains copies of the log plots, log data reports, analysis results, and interpretations generated from the probe hole (See log plots for C3831 in Appendix C). The following logging suites were utilized:

1. Gross gamma
2. Spectral (HPgE) gamma logging
3. Neutron-Moisture.

Analysis of the HPGe data detected ^{137}Cs within the top 3 ft of the probe hole and ^{60}Co below tank bottom levels. Cobalt detections began at 52 ft BGS and continued to the total depth achieved by the logging probe (114.4 ft BGS). The highest concentration level of cobalt detected (61pCi/g) occurred at 61.5 ft and 68.5 ft BGS. As noted above, samples were collected in the zones of high cobalt contamination and the cobalt detections began immediately below the bottom of the tank excavation and continued to the total depth of the well. As confirmed by the limited sampling, the silty sand and fine sand interbeds appear to contain generally higher levels of radioactive contaminates and exhibit higher total gamma counts and cobalt concentrations.

No ^{238}U was detected by the analysis of the HPGe spectral data, and there were no cesium detections below the near surface detections noted above.

4.0 PROBE HOLE DECOMMISSIONING

Decommissioning of probe hole C3832 commenced on August 13 and was completed on August 14. Decommissioning activities met all applicable sections of WAC 173–160, "Minimum Standards for Construction and Maintenance of Wells," requirements. As the casing was extracted, dry bentonite materials were added to fill the annular space. Thirty-nine (39.8) ft^3 of materials (56 sacks) were placed into the probe hole as the casing was extracted. This volume slightly exceeds the minimal calculated volume (35.4 ft^3) for filling the void space created by casing extraction. The probe hole was filled within approximately 1 ft of grade and covered with gravel to conform to tank farm requirements.

5.0 ENVIRONMENTAL, SAFETY, AND HEALTH

During the field operations, the job site was surveyed by both DFSNW Operations Safety and CH2M HILL Hanford Group, Inc., Tank Farm Industrial Hygiene and Safety personnel for safety and health compliance. As stated in Section 2.0, "Summary of Activities," high daytime temperatures necessitated changing of working hours to a night shift from July 9 through July 25. To ensure compliance with 29 CFR 1926.56, "Illumination," monitoring of the work zone was conducted by DFSNW safety personnel. During the first week of night shift activities, the work zone was inspected and tested for adequate illumination on several occasions, and light source placements were adjusted for maximum efficiencies. A minimum of 5 foot-candles of illumination is required per Table D-3 of 29 CFR 1926.56. DFSNW Surveillance Report 02-013a (found in Appendix I) documents work site compliance with this requirement. There were no lost time, reportable *Occupational Safety and Health Act of 1970* injuries, or first aid cases during performance of the work activities relating to probe driving activities at the C3831 location.

6.0 REFERENCES

29 CFR 1926.56, "Illumination," *Code of Federal Regulations*, as amended.

DFSNW-DOW-006, 2002, *Description of Work: Drilling and Sampling,* Rev. 0, Duratek Federal Services, Inc., Northwest Operations, Richland, Washington.

DOE/RL-99-36, 1999, *Phase 1 RCRA Facility Investigation/Corrective Measures Study Work Plan for Single-Shell Tank Waste Management Areas*, U.S. Department of Energy, Richland Operations Office, Richland, Washington.

HNF-IP-0842, *RPP Administration*, Vol. IX, Section 4.25, "Heat Stress Control," Rev. 2, Lockheed Martin Hanford Corporation, Richland, Washington.

Occupational Safety and Health Act of 1970, 29 USC 651 et seq.

RPP-6917, 2000, *SX-108 Slant Borehole Completion Report*, Rev. 0, prepared by Waste Management Technical Services for CH2M HILL Hanford Group, Inc., Single Shell Tank Farms Vadose Zone Program, Richland, Washington.

RPP-7578, 2001, *Site-Specific SST Phase 1 RFI/CMS Work Plan Addendum for WMAs T and TX-TY,* Rev. 0, CH2M HILL Hanford Group, Inc., Richland, Washington.

WAC 173–160, "Minimum Standards for Construction and Maintenance of Wells," *Washington Administrative Code*, as amended.

This page intentionally left blank.

APPENDIX A

FIELD ACTIVITY REPORTS

This page intentionally left blank.

Duratek Federal Services, Inc., Northwest Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: C3831	*WELL NUMBER*: N/A	*REPORT NUMBER*: 36	*DATE*: June 24, 2002 Monday
CONTRACT NUMBER: 8248-55	*START CARD NO*: S00631	*RIG MODEL/NO*: SIMCO 5000 (Rig 106)	
PURPOSE: Daily safety meeting. Prepare rig for mobilization to next bore hole. Awaiting for Work Package approval.	*REFERENCE*: DFSNW-DOW-006, Rev. 0	*LOCATION*: TX Tank Farm, 200 West	
REFERENCE MEASURING POINT: Steel Plate		*TOTAL SHIFT FOOTAGE*: 0.0 ft.	

CONSTRUCTION DESCRIPTION: N/A

CASING SIZE	SET-AT DEPTH	TYPE CASING	DRIVE POINT DIMENSION	START DEPTH	END DEPTH
7.0 " OD	NA	CS	Shoe, 7.5 " OD	0.0 ft	0.0 ft

BORING DEPTH: START: 0.0 ft END: 0.0 ft

START TIME: 0700
END TIME: 1630
CONTRACTOR TIME: 0.5
TOTAL TIME: 9.5

DOCUMENTED DOWNTIME

Work Package – 9 hrs.

WEATHER CONDITIONS (373-2716)

N/A.

CASING SUMMARY

Bottom of 7 " OD casing (start of shift) = 0.0 ft.
Bottom of 7" OD casing (end of shift) = 0.0 ft.
Casing (7 in OD) stick up (end of shift) = 0.0 ft.

SAMPLE SUMMARY

N/A

PERSONNEL:
OPERATOR: K. Olson
DL Curry/DE Morris
WA LICENSE #: 1217
OTHER: D. Skoglie
S. Snook (Optr)
K. Johnson (PIC)
K. Hartilius (HPT)

TIME FROM	TO	*DESCRIPTION OF OPERATIONS/REMARKS*
07:00	08:00	Personnel on-site conduct discussion regarding TX Tank Farm operations. A daily Safety meeting was held. Anticipated activities were discussed. Mobilization to the next bore hole is pending Work Package release.
08:00		A hydraulic fitting was replaced on the 7 inch casing puller. A measurement of the plate and hydraulic jack base was compared to verify alignment of the jacks. The jacks will be secured in addition to the tabs welded on the new base plate.
	10:15	Bore hole (C3831) location was walked down and leveled for the plate and pipe racks. Minor adjustments will be made during set-up of the drill and support equipment.
	16:30	BSE personnel worked in the Duratek yard.
		Lunch 11:30 – 12:00

REPORT BY: D.E. Skoglie
TITLE: Field Team Lead
SIGNATURE: D.E. Skoglie

REVIEWED BY: MG Gardner
TITLE: Project Manager DATE: 9-24-02
SIGNATURE: MG Gardner

Duratek Federal Services, Inc., Northwest Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: C3831	*WELL NUMBER*: N/A	*REPORT NUMBER*: 37	*DATE*: June 25, 2002 Tuesday
CONTRACT NUMBER: 8248-55	*START CARD NO*: S00631	*RIG MODEL/NO*: SIMCO 5000 (Rig 106)	
PURPOSE: Daily safety meeting. Prepare rig for mobilization to next bore hole. Awaiting for Work Package approval.	*REFERENCE*: DFSNW-DOW-006, Rev. 0	*LOCATION*: TX Tank Farm, 200 West	
REFERENCE MEASURING POINT: Steel Plate		*TOTAL SHIFT FOOTAGE*: 0.0 ft.	

CONSTRUCTION DESCRIPTION: N/A

CASING SIZE	SET-AT DEPTH	TYPE CASING	DRIVE POINT DIMENSION	START DEPTH	END DEPTH
7.0 " OD	NA	CS	Shoe, 7.5 " OD	0.0 ft	0.0 ft

BORING DEPTH:
START: 0.0 ft
END: 0.0 ft

START TIME: 0700
END TIME: 1630
CONTRACTOR TIME: 0.5
TOTAL TIME: 9.5

DOCUMENTED DOWNTIME

Work package – 9 hrs.

WEATHER CONDITIONS (373-2716)

N/A.

CASING SUMMARY

Bottom of 7 " OD casing (start of shift) = 0.0 ft.
Bottom of 7" OD casing (end of shift) = 0.0 ft.
Casing (7 in OD) stick up (end of shift) = 0.0 ft.

SAMPLE SUMMARY

N/A

PERSONNEL:
OPERATOR: K. Olson
DL Curry/DE Morris
WA LICENSE #: 1217
OTHER: D. Skoglie/K. Flower
S. Snook (Optr)
K. Johnson (PIC)
J. Clayton (HPT)

TIME FROM	TO	*DESCRIPTION OF OPERATIONS/REMARKS*
07:00	08:30	Personnel on-site conduct discussion regarding TX Tank Farm operations. A daily Safety meeting was held. Anticipated activities were discussed. Mobilization to the next bore hole is pending Work Package release. A wood block was placed under the steps of the CHG support trailer.
08:30	11:30	A hydraulic ram was replaced on the casing jacks break-out system. The hydraulic jacks were rotated 180 degrees to facilitate operation.
11:30	12:00	Lunch.
12:00	16:30	BSE personnel worked in the Duratek yard. Fabricate umbrella stands.

REPORT BY: D.E. Skoglie
TITLE: Field Team Lead
SIGNATURE: D.E. Skoglie

REVIEWED BY: MG Gardner
TITLE: Project Manager DATE: 9-24-02
SIGNATURE: MG Gardner

Duratek Federal Services, Inc., Northwest Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: C3831	*WELL NUMBER*: N/A	*REPORT NUMBER*: 38	*DATE:* June 26, 2002 Wednesday
CONTRACT NUMBER: 8248-55	*START CARD NO*: S00631	*RIG MODEL/NO*: SIMCO 5000 (Rig 106)	
PURPOSE: Daily safety meeting. Prepare rig for mobilization to next bore hole. Awaiting Work Package approval.	*REFERENCE*: DFSNW-DOW-006, Rev. 0	*LOCATION*: TX Tank Farm, 200 West	
REFERENCE MEASURING POINT: Steel Plate		*TOTAL SHIFT FOOTAGE*: 0.0 ft.	

CONSTRUCTION DESCRIPTION: N/A

CASING SIZE	SET-AT DEPTH	TYPE CASING	DRIVE POINT DIMENSION	START DEPTH	END DEPTH
7.0 " OD	NA	CS	Shoe, 7.5 " OD	0.0 ft	0.0 ft

BORING DEPTH:
START: 0.0 ft
END: 0.0 ft

START TIME: 0700
END TIME: 1630
CONTRACTOR TIME: 0.5
TOTAL TIME: 9.5

DOCUMENTED DOWNTIME

Work package – 9 hrs.

WEATHER CONDITIONS (373-2716)

N/A.

CASING SUMMARY

Bottom of 7 " OD casing (start of shift) = 0.0 ft.
Bottom of 7" OD casing (end of shift) = 0.0 ft.
Casing (7 in OD) stick up (end of shift) = 0.0 ft.

SAMPLE SUMMARY

N/A

PERSONNEL:
OPERATOR: K. Olson
DL Curry/DE Morris
WA LICENSE #: 1217
OTHER: D. Skoglie/K. Flower
S. Snook (Optr)
K. Johnson (PIC)
J. Clayton (HPT)

TIME FROM	TO	*DESCRIPTION OF OPERATIONS/REMARKS*
07:00	11:30	Personnel on-site conduct discussion regarding TX Tank Farm operations. A daily Safety meeting was held. Anticipated activities were discussed. Mobilization to the next bore hole is pending Work Package release. The support generator is blowing a lot of smoke. The air filter has came apart and plugged the air line. Maintenance has been called. A filter will need to be ordered. BSE prepares for next boring.
11:30	12:00	Lunch.
12:00	16:30	BSE personnel worked in the Duratek yard.

REPORT BY: D.E. Skoglie
TITLE: Field Team Lead
SIGNATURE: D.E. Skoglie

REVIEWED BY: MG Gardner
TITLE: Project Manager DATE: 9-24-02
SIGNATURE: MGardner

Duratek Federal Services, Inc., Northwest Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: C3831	*WELL NUMBER*: N/A	*REPORT NUMBER*: 39	*DATE*: June 27, 2002 Thursday
CONTRACT NUMBER: 8248-55	*START CARD NO*: S00631	*RIG MODEL/NO*: SIMCO 5000 (Rig 106)	
PURPOSE: Daily safety meeting. Prepare rig for mobilization to next bore hole. Awaiting for Work Package approval.	*REFERENCE*: DFSNW-DOW-006, Rev. 0	*LOCATION*: TX Tank Farm, 200 West	
REFERENCE MEASURING POINT: Steel Plate		*TOTAL SHIFT FOOTAGE*: 0.0 ft.	

CONSTRUCTION DESCRIPTION: N/A

CASING SIZE	SET-AT DEPTH	TYPE CASING	DRIVE POINT DIMENSION	START DEPTH	END DEPTH
7.0 " OD	NA	CS	Shoe, 7.5 " OD	0.0 ft	0.0 ft

BORING DEPTH:
START: 0.0 ft
END: 0.0 ft

START TIME: 0700
END TIME: 1630
CONTRACTOR TIME: 0.5
TOTAL TIME: 9.5

DOCUMENTED DOWNTIME

Work package – 9 hrs.

WEATHER CONDITIONS (373-2716)

N/A.

CASING SUMMARY

Bottom of 7 " OD casing (start of shift) = 0.0 ft.
Bottom of 7" OD casing (end of shift) = 0.0 ft.
Casing (7 in OD) stick up (end of shift) = 0.0 ft.

SAMPLE SUMMARY

N/A

PERSONNEL:
OPERATOR: K. Olson
DL Curry/DE Morris
WA LICENSE #: 1217
OTHER: D. Skoglie/K. Flower
S. Snook (Optr)
K. Johnson (PIC)

TIME FROM	TO	*DESCRIPTION OF OPERATIONS/REMARKS*
07:00	08:15	Personnel on-site conduct discussion regarding TX Tank Farm operations. A daily Safety meeting was held. Anticipated activities were discussed. Mobilization to the next bore hole is pending Work Package release.
08:15		The Katolight generator was repaired (an air filter was replaced). The fuel filter on the support trailer was also changed.
	11:30	BSE crew works in Duratek yard.
11:30	12:00	Lunch
12:00	16:30	BSE works in Duratek yard. Provide an inventory of drill pipe and casing. Fabricate tool rack for drill unit.

REPORT BY: D.E. Skoglie
TITLE: Field Team Lead
SIGNATURE: D.E. Skoglie

REVIEWED BY: MG Gardner
TITLE: Project Manager DATE: 9-24-02
SIGNATURE: MGGardner

Duratek Federal Services, Inc., Northwest Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: C3831	*WELL NUMBER*: N/A	*REPORT NUMBER*: 40	*DATE*: June 28, 2002 Friday
CONTRACT NUMBER: 8248-55	*START CARD NO*: S00631	*RIG MODEL/NO*: SIMCO 5000 (Rig 106)	
PURPOSE: Daily and weekly safety meeting. Mobilize drill rig to next bore hole (C3831). Work Package released.	*REFERENCE*: DFSNW-DOW-006, Rev. 0	*LOCATION*: TX Tank Farm, 200 West	
REFERENCE MEASURING POINT: Steel Plate		*TOTAL SHIFT FOOTAGE*: 0.0 ft.	

CONSTRUCTION DESCRIPTION: N/A

CASING SIZE	SET-AT DEPTH	TYPE CASING	DRIVE POINT DIMENSION	START DEPTH	END DEPTH
7.0 " OD	NA	CS	Shoe, 7.5 " OD	0.0 ft	0.0 ft

BORING DEPTH:
START: 0.0 ft
END: 0.0 ft

START TIME: 0700
END TIME: 1630
CONTRACTOR TIME: 0.5
TOTAL TIME: 9.5

DOCUMENTED DOWNTIME

RWP – 2 hrs.

WEATHER CONDITIONS (373-2716)

N/A.

CASING SUMMARY

Bottom of 7 " OD casing (start of shift) = 0.0 ft.
Bottom of 7" OD casing (end of shift) = 0.0 ft.
Casing (7 in OD) stick up (end of shift) = 0.0 ft.

SAMPLE SUMMARY

N/A

PERSONNEL:

OPERATOR: K. Olson
DL Curry/DE Morris
WA LICENSE #: 1217
OTHER: D. Skoglie/K. Flower
R. Sharp/S. Snook (Optr)
K. Johnson (PIC)
J. Clayton (HPT)

TIME FROM	TO	*DESCRIPTION OF OPERATIONS/REMARKS*
07:00	09:00	Package released for work. Personnel travel to 272WA to Ace under the revised RWP (2W-102 Rev 2). The RWP was not in the system. Radiological management made the contacts to have the RWP placed in the system. Personnel Aced in for 30 days.
09:00	09:46	Conduct a Pre-job safety briefing. The Pre-job briefing was documented as the weekly safety meeting.
09:46	11:58	Mobilize the drill unit to the next location (C3831). The drill unit was placed on plastic and felt matting. Mouse traps were set in place. Set-up hydraulic stabilizers and remove truck.
11:58	12:28	Lunch
12:28	14:30	The drill was leveled and aligned. Additional alignment will be conducted on Monday. The pipe racks were set-up.
14:30	15:30	The site was secured. Documentation completed.

REPORT BY: DE Skoglie
TITLE: Field Team Lead
SIGNATURE: D.E. Skoglie

REVIEWED BY: MG Gardner
TITLE: Project Manager DATE: 9-24-02
SIGNATURE: MGGardner

Duratek Federal Services

Duratek Federal Services, Inc., Northwest Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: C3831	*WELL NUMBER*: N/A	*REPORT NUMBER*: 41	*DATE*: July 01, 2002 Monday
CONTRACT NUMBER: 8248-55	*START CARD NO*: S00631	*RIG MODEL/NO*: SIMCO 5000 (Rig 106)	
PURPOSE: Daily safety meeting. Complete alignment and set-up. Initiate casing driving.	*REFERENCE*: DFSNW-DOW-006, Rev. 0	*LOCATION*: TX Tank Farm, 200 West	
REFERENCE MEASURING POINT: Steel Plate		*TOTAL SHIFT FOOTAGE*: 5.98 ft.	

CONSTRUCTION DESCRIPTION: N/A

CASING SIZE	SET-AT DEPTH	TYPE CASING	DRIVE POINT DIMENSION	START DEPTH	END DEPTH
7.0 " OD	NA	CS	Shoe, 7.5 " OD	0.0 ft	5.98 ft

BORING DEPTH: START: 0.0 ft END: 5.98 ft

START TIME: 0700
END TIME: 1630
CONTRACTOR TIME: 0.5
TOTAL TIME: 9.5

DOCUMENTED DOWNTIME

Rig repair – 45 min.

WEATHER CONDITIONS (373-2716)

07:45: 64F, wind W11mph gusts to 20 mph, barometric pressure 29.42, humidity 40%.

CASING SUMMARY

Bottom of 7 " OD casing (start of shift) = 0.0 ft.
Bottom of 7" OD casing (end of shift) = 5.98 ft.
Casing (7 in OD) stick up (end of shift) = 0.95 ft.

SAMPLE SUMMARY

N/A

PERSONNEL:
OPERATOR: K. Olson
DL Curry/DE Morris
WA LICENSE #: 1217
OTHER: D. Skoglie/K. Flower
S. Snook (Optr)
R. Sharp (PIC)
K. Hartieulius (HPT)

TIME FROM	TO	*DESCRIPTION OF OPERATIONS/REMARKS*
07:00	07:30	Initial discussion regarding drill/plate/jacks alignment. Review procedure for bleeding pile driver fuel line.
07:30	08:24	Conduct daily safety meeting. Discuss anticipated activities. Enter TX Tank Farm and conduct equipment inspection. No deficiencies noted. Fuel equipment.
08:24	11:05	Install hydraulic fuel activation cylinder and bleed off air from system. Set-up air monitors and Rudy cart. Align plate/hydraulic jacks/drill head/hammer.
11:05	11:40	Lunch
11:40	13:14	Rotate hydraulic jacks slightly to complete alignment process. Secure hydraulic jacks with chains and binders. The curtain was installed around the hydraulic jacks. The generator (WINCO) was started. However, due to over reving the engine rev switch tripped. The switch was reset and the generator started.
13:14	15:10	Add casing 7 inch 5.44 (includes drive shoe) + 4.99 = 10.43 ft. 4.5 inch 5.81 (includes tip) + 5.25 = 11.06 ft. Set up hammer.
15:10	15:12	Drive casing to 5.98 ft bgs. Blow count is 6/7/8/7/8/6.
15:12	15:40	Add casing 7 inch 5.0 (15.43 ft total) and 4.5 inch 5.01 (16.07 ft total). Connect drive head assemblies. 4.5 inch drive head out of adjustment.
15:40	15:50	Secure site and survey out equipment.

REPORT BY: DE Skoglie
TITLE: Field Team Lead
SIGNATURE: D. E. Skoglie

REVIEWED BY: MG Gardner
TITLE: Project Manager DATE: 9-24-02
SIGNATURE: M Gardner

Duratek Federal Services, Inc., Northwest Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 2

WELL I.D.: C3831	*WELL NUMBER*: N/A	*REPORT NUMBER*: 42	*DATE:* July 02, 2002 Tuesday
CONTRACT NUMBER: 8248-55	*START CARD NO*: S00631	*RIG MODEL/NO*: SIMCO 5000 (Rig 106)	
PURPOSE: Daily safety meeting. Initiate casing driving. Obtain sample number S02057-01.	*REFERENCE*: DFSNW-DOW-006, Rev. 0	*LOCATION*: TX Tank Farm, 200 West	
REFERENCE MEASURING POINT: Steel Plate		*TOTAL SHIFT FOOTAGE*: 14.82 ft.	

CONSTRUCTION DESCRIPTION: N/A

CASING SIZE	SET-AT DEPTH	TYPE CASING	DRIVE POINT DIMENSION	START DEPTH	END DEPTH
7.0 " OD	NA	CS	Shoe, 7.5 " OD	5.98 ft	20.48ft

BORING DEPTH: START: 5.98 ft
END: 20.8 ft

START TIME: 0700
END TIME: 1630
CONTRACTOR TIME: 0.5
TOTAL TIME: 9.5

DOCUMENTED DOWNTIME

Hydraulic fitting – 1 hr.

WEATHER CONDITIONS (373-2716)

07:51: 63F, wind NW10 mph gusts to 15 mph, barometric pressure 29.39, humidity 40%.

CASING SUMMARY

Bottom of 7 " OD casing (start of shift) = 5.98 ft.
Bottom of 7" OD casing (end of shift) = 20.48 ft.
Casing (7 in OD) stick up (end of shift) = 1.45 ft.

SAMPLE SUMMARY

Sample: S02057-01 (#1) 14.93 – 16.21 (1.28 ft)

PERSONNEL:
OPERATOR: K. Olson
DL Curry/DE Morris
WA LICENSE #: 1217
OTHER: D. Skoglie/K. Flower
S. Snook (Optr)
R. Sharp (PIC)
K. Harteilius (HPT)

TIME FROM	TO	*DESCRIPTION OF OPERATIONS/REMARKS*
07:00	08:05	Conduct daily and weekly safety meeting. Discuss anticipated activities. Enter TX Tank Farm and conduct equipment inspection. No deficiencies noted. Fuel equipment.
08:05	08:21	Unscrew 7 inch casing and remove. Adjust Dp drive head and replace 7 inch casing. Set-up hammer.
08:21	08:23	Drive casing to 10.93 ft bgs. 15.43 – (3.5 + 1.0). Blows 7/8/8/7/8.
08:23	08:59	Add casing 4 ft (19.43 total) and Dp 4 ft. (20.07 ft total). Set-up hammer.
08:59	09:03	Drive casing to a depth of 14.93 ft bgs (SU 1.0). 19.43 – (3.5 + 1.0) = 14.93 ft bgs. Blows 9/10/12/11
09:03	09:43	Back pull casing .25 ft (14.68 ft bgs) (09:10). Trip Dp out of boring (09:41). Trip in with sampler.
09:43	09:44	Drive sampler 14.93 – 16.21 (1.28 ft.). Sample number S02057-01. Blows 3/3/1.
09:44	10:45	Trip sampler out of boring. Sample in drum @ 10:10 hrs. Break 10:38 – 10:45
10:45	11:45	A hydraulic leak in the hold-back hydraulic line of the drill unit was noted. The Duratek FTL/Safety shut down driving operations until the leak was evaluated. The fitting was not cracked. Mr. Flower had some lock tight, which was used to resolve the leak until the fitting can be replaced.
11:45	12:15	Lunch
12:15	12:45	Back pull 4 ft. casing. Install casing 5.0 ft (20.43 ft total) and Dp 5.0 ft (21.07 ft total).
12:45	13:22	Run Dp into casing (13:00 hrs). Add casing 5.0 ft (20.43 ft total) and Dp 5.0 ft (21.07 ft total).
13:22	13:25	Push casing with weight of hammer, then drive to 0.96 ft S.U. (15.97 ft bgs).
13:25	13:49	Add casing 5.0 ft (25.43 ft total) and Dp 5.0 ft (26.07 ft total) 13:46 hrs. Set up hammer.
13:49	13:51	Drive casing to 20.8 ft bgs. Blow count 16/15/15/14/7. S.U. 1.13. Back pull casing .32 ft.
13:51	14:40	Disconnect hammer and drive head. Secure site Weld tab on saver sub and drill hole (16:30 hrs.)

REPORT BY: DE Skoglie
TITLE: Field Team Lead
SIGNATURE: D.E. Skoglie

REVIEWED BY: MG Gardner
TITLE: Project Manager DATE: 9-24-02
SIGNATURE: MGGardner

Duratek Federal Services, Inc., Northwest Operations

SAMPLE FORM

FAR No. 42 Page 2 of 2

Sample No. S02057-01 Sample Tracking No. 01

Target Depth 15 to 16

(1) 3.5 top of rig floor above ground

(2) 4.5 casing stickup above ground

Csg Total (3) 19.43 - Stickup (2) 4.5 = TD (4) 14.93

Does not include drive head

Backpull stickup (2+5) .25

Sample depth (4) 14.93 to (4+6) 16.21

Blow Count

1.28 MBG 9-24-02

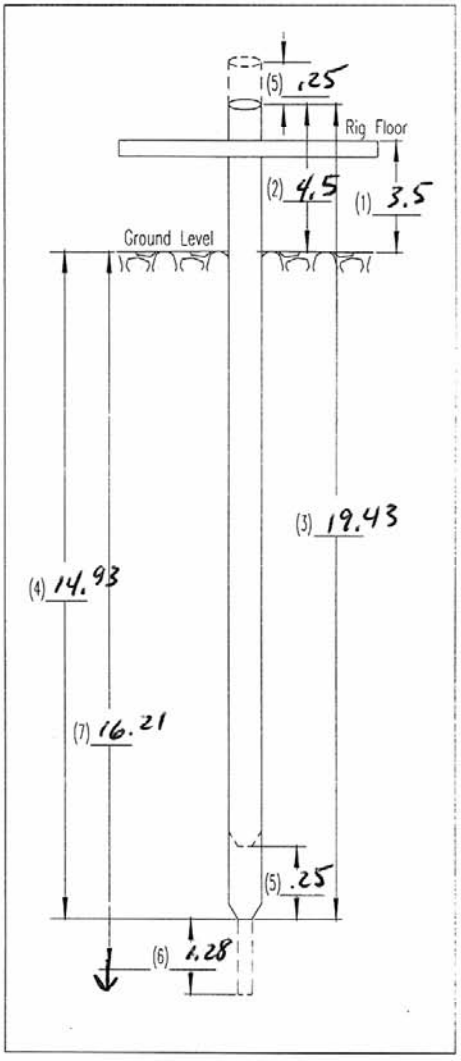
	.5 ft	1 ft	~~1.5 ft~~
Start Time 0943	3	3	1
End Time 0944			

Estimated Recovery: 100%

Remarks:

SAMPLE IN DRUM @ 1010 hrs.

1 = Top of rig floor above ground
2 = Stickup of csg above ground 1 + measure from floor to top csg = SU
3 = Total csg length
4 = Depth of csg = Total Depth (TD)
Total csg – SU(2) = TD
5 = Casing back pull
6 = Sampler drive distance
7 = Total depth of driven sample = 4 + 6



PREPARED BY (Please print): D.E. SKOGLIE
TITLE: FTL DATE: 07/02/02
SIGNATURE: D.E. Skoglie

REVIEWED BY (Please print): MG Gardner
TITLE: Manager DATE: 9-24-02
SIGNATURE: MBGardner

DFSNW-WS-00__

Duratek Federal Services, Inc., Northwest Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 2

WELL I.D.: C3831	*WELL NUMBER*: N/A	*REPORT NUMBER*: 43	*DATE:* July 03, 2002 Wednesday
CONTRACT NUMBER: 8248-55	*START CARD NO*: S00631	*RIG MODEL/NO*: SIMCO 5000 (Rig 106)	
PURPOSE: Daily safety meeting. Initiate casing driving. Obtain sample number S02057-02.	*REFERENCE*: DFSNW-DOW-006, Rev. 0	*LOCATION*: TX Tank Farm, 200 West	
REFERENCE MEASURING POINT: Steel Plate		*TOTAL SHIFT FOOTAGE*: 1.5 ft.	

CONSTRUCTION DESCRIPTION: N/A

CASING SIZE	SET-AT DEPTH	TYPE CASING	DRIVE POINT DIMENSION	START DEPTH	END DEPTH
7.0 " OD	NA	CS	Shoe, 7.5 " OD	20.48 ft	20.48ft

BORING DEPTH:
START: 20.8 ft
END: 22.3 ft

START TIME: 0700
END TIME: 1630
CONTRACTOR TIME: 0.5
TOTAL TIME: 9.5

DOCUMENTED DOWNTIME

Rig repair – 6 hrs.

WEATHER CONDITIONS (373-2716)

08:03: 674F, wind WNW16 mph gusts to 23 mph, barometric pressure 29.12, humidity 22%.

CASING SUMMARY

Bottom of 7 " OD casing (start of shift) = 20.48 ft.
Bottom of 7" OD casing (end of shift) = 20.48 ft.
Casing (7 in OD) stick up (end of shift) = 1.45 ft.

SAMPLE SUMMARY

Sample: S02057-02 (#2) 20.8 – 22.3 ft (1.5 ft)

PERSONNEL:
OPERATOR: D. Curry
DE Morris
WA LICENSE #: 1217
OTHER: D. Skoglie/K. Flower
S. Snook (Optr)
R. Sharp (PIC)
K. Hartelius (HPT)

TIME FROM	TO	*DESCRIPTION OF OPERATIONS/REMARKS*
07:00	07:40	Conduct daily safety meeting. Discuss anticipated activities. Enter TX Tank Farm and conduct equipment inspection. Fuel equipment.
07:40	09:15	Trip Dp out of bore hole. Trip Dp and sampler into the boring. Set up hammer.
09:15	09:46	Replacement of hammer cable assembly. One of two cables was partially broke.
09:46	09:46	Drive sampler 20.8 – 22.3 (1.5 ft.). Sample number S02057-02. Blows 2/3/3.
09:46	11:38	Trip sampler out of boring. Sample in drum @ 10:43 hrs..
11:38	12:30	The top pulley(s) and shaft will need evaluated. Noise is coming from the crown. The head will not lift the hammer to lower. The hammer was secured in the mast. After further evaluation the top shaft is bent or broke. Expect bad bearing also.
12:30	16:30	A crane and JLG will be required to first assist in lowering the drill head and second assist in lowering the mast Contacts will be made to determine crane and JLG weights. LATA will evaluate dome loading. The work package will be reviewed to determine if changes will need to be made.

REPORT BY: D.E. Skoglie
TITLE: Field Team Lead
SIGNATURE: D.E. Skoglie

REVIEWED BY: MG Gardner
TITLE: Project Manager DATE: 9-24-02
SIGNATURE:

Duratek Federal Services

Duratek Federal Services, Inc., Northwest Operations

SAMPLE FORM

FAR No. 43 Page 2 of 2

Sample No. S02057-02 Sample Tracking No. 02

Target Depth 21 to 22

(1) 3.5 top of rig floor above ground

(2) 4.63 casing stickup above ground

Csg Total (3) 25.43 - Stickup (2) 4.63 = TD (4) 20.8

Does not include drive head

Backpull stickup (2+5) 4.95

Sample depth (4) 20.8 to (4+6) 22.3

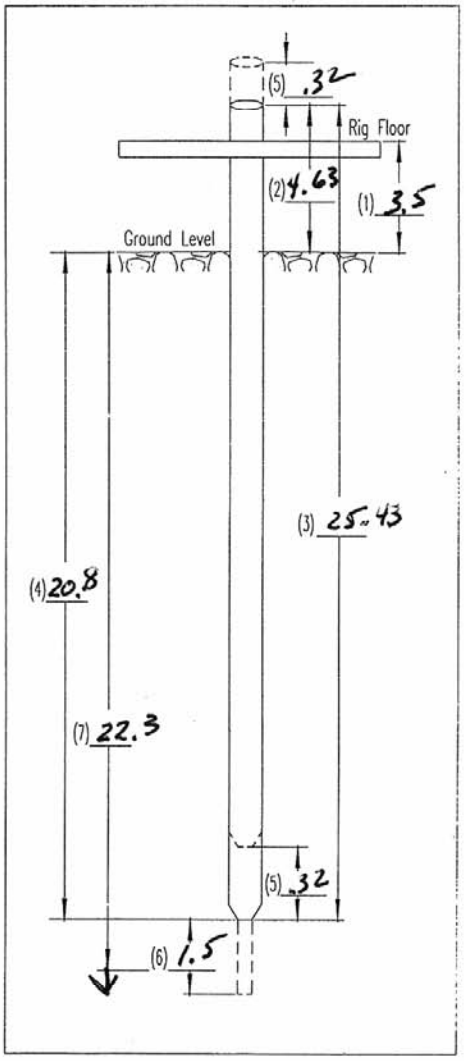
Blow Count

	.5 ft	1 ft	1.5 ft
Start Time 09:46	2	3	3
End Time 09:46			

Estimated Recovery: 100%

Remarks:
SAMPLE IN DRUM @ 1043 hrs.

1 = Top of rig floor above ground
2 = Stickup of csg above ground 1 + measure from floor to top csg = SU
3 = Total csg length
4 = Depth of csg = Total Depth (TD)
Total csg – SU(2) = TD
5 = Casing back pull
6 = Sampler drive distance
7 = Total depth of driven sample = 4 + 6



PREPARED BY (Please print): D.E. SKOGLIE
TITLE: PTL DATE: 070302
SIGNATURE: D.E. Skoglie

REVIEWED BY (Please print): MG GARDNER
TITLE: Manager DATE: 9-24-02
SIGNATURE: MGGardner

DFSNW-WS-00__

Duratek Federal Services, Inc., Northwest Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: C3831	*WELL NUMBER*: N/A	*REPORT NUMBER*: 44	*DATE*: July 08, 2002 Monday
CONTRACT NUMBER: 8248-55	*START CARD NO*: S00631	*RIG MODEL/NO*: SIMCO 5000 (Rig 106)	
PURPOSE: Daily safety meeting. Repair Rig.	*REFERENCE*: DFSNW-DOW-006, Rev. 0	*LOCATION*: TX Tank Farm, 200 West	
REFERENCE MEASURING POINT: Steel Plate	*TOTAL SHIFT FOOTAGE*: 0.0 ft.		

CONSTRUCTION DESCRIPTION: N/A

CASING SIZE	SET-AT DEPTH	TYPE CASING	DRIVE POINT DIMENSION	START DEPTH	END DEPTH
7.0 " OD	NA	CS	Shoe, 7.5 " OD	20.48 ft	20.48ft

BORING DEPTH:
START: 22.3 ft
END: 22.3 ft

START TIME: 0700
END TIME: 1630
CONTRACTOR TIME: 0.5
TOTAL TIME: 9.5

DOCUMENTED DOWNTIME

Rig repair – 9 hrs.

WEATHER CONDITIONS (373-2716)

10:02: 69F, wind NW 7 – 10 mph, barometric pressure 29.38, humidity 59%.

CASING SUMMARY

Bottom of 7 " OD casing (start of shift) = 20.48 ft.
Bottom of 7" OD casing (end of shift) = 20.48 ft.
Casing (7 in OD) stick up (end of shift) = 1.45 ft.

SAMPLE SUMMARY

N/A

PERSONNEL:
OPERATOR: D. Curry
DE Morris
WA LICENSE #: 1217
OTHER: D. Skoglie/K. Flower
S. Snook (Optr)
R. Sharp (PIC)
K. Hartieulius (HPT)

TIME FROM	TO	*DESCRIPTION OF OPERATIONS/REMARKS*
07:00	09:25	Discussion regarding scope of work and plan of attack. Conduct walk-down of site for support equipment. Discuss scope with Crane and Rigging.
09:25	10:00	Move casing and DP from drive location to staging area in preparation of crane/JLG.
10:00		
	16:30	CHG safety on location to discuss full body harness. The site specific requirements will be satisfied if Duratek safety provides training of maintenance and installing the harness.

REPORT BY: D.E. Skoglie
TITLE: Field Team Lead
SIGNATURE: D.E. Skoglie

REVIEWED BY: MG Gardner
TITLE: Project Manager DATE: 9-24-02
SIGNATURE: MG Gardner

Duratek Federal Services, Inc., Northwest Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: C3831	*WELL NUMBER*: N/A	*REPORT NUMBER*: 45	*DATE:* July 09, 2002 Tuesday
CONTRACT NUMBER: 8248-55	*START CARD NO*: S00631	*RIG MODEL/NO*: SIMCO 5000 (Rig 106)	
PURPOSE: Daily safety meeting. Repair Rig.	*REFERENCE*: DFSNW-DOW-006, Rev. 0	*LOCATION*: TX Tank Farm, 200 West	
REFERENCE MEASURING POINT: Steel Plate	*TOTAL SHIFT FOOTAGE*: 0.0 ft.		

CONSTRUCTION DESCRIPTION: N/A

CASING SIZE	SET-AT DEPTH	TYPE CASING	DRIVE POINT DIMENSION	START DEPTH	END DEPTH
7.0 " OD	NA	CS	Shoe, 7.5 " OD	20.48 ft	20.48ft

BORING DEPTH:
START: 22.3 ft
END: 22.3 ft

START TIME: 0700
END TIME: 1630
CONTRACTOR TIME: 0.5
TOTAL TIME: 9.5

DOCUMENTED DOWNTIME

Rig repair – 9 hrs.

WEATHER CONDITIONS (373-2716)

11:20: 80F, wind N 5 – 9 mph, barometric pressure 29.521, humidity 33%, WBGT @ 11:21 75F.

CASING SUMMARY

Bottom of 7 " OD casing (start of shift) = 20.48 ft.
Bottom of 7" OD casing (end of shift) = 20.48 ft.
Casing (7 in OD) stick up (end of shift) = 1.45 ft.

SAMPLE SUMMARY

N/A

PERSONNEL:

OPERATOR: D. Curry/K. Olson
DE Morris
WA LICENSE #: 1217
OTHER: D. Skoglie/K. Flower
S. Snook/R. Sharp (Optr)
K. Johnson (PIC)
K. Hartelius (HPT)

TIME FROM	TO	*DESCRIPTION OF OPERATIONS/REMARKS*
07:00	07:30	Discuss and review don/doff body harness.
07:30	08:30	Mr. Hartney (competent person) and Mr. Sweesy on location. Discussion regarding manlift and OSHA requirements. Whole body harness and lanyard inspected. There is no shelf life for whole body harness/lanyards. However, they must pass inspection.
10:00	10:38	Conduct Pre-job safety meeting. Equipment route was discussed. Scope of work was discussed to familiarize support personnel.
10:38	11:30	The crane 33T and man-lift (45 ft) were set-up. Field crew discusses process/operation upcoming. Mr. Flower states that the East side of the mast has a chain off the sprocket. The West side is on the sprocket.
11:30	12:00	Lunch
12:00	12:45	Fall protection Plan arrives on-site. Personnel are briefed and sign off complete.
12:45	13:45	Personnel in man-basket. The upper mast was evaluated, components measured and pictures taken for BSE Mr. Rob Dobush (13:10). Information was reviewed and replacement parts will be ordered.
13:45	15:05	The crane was hooked up to the head. The head was detached from the chain and lowered to the stop tabs.
15:05	15:09	The hammer was lowered with the aid of the crane.
15:09	15:45	The hammer was secured. The crane was removed from the TX Tank Farm. The drill mast was lowered.
15:45	16:00	The welding trailer was staged near the drill unit. The area was secured.

REPORT BY: D.E. Skoglie
TITLE: Field Team Lead
SIGNATURE: D.E. Skoglie

REVIEWED BY: MG Gardner
TITLE: Project Manager DATE: 9-24-02
SIGNATURE: MGGardner

Duratek Federal Services, Inc., Northwest Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: C3831	*WELL NUMBER*: N/A	*REPORT NUMBER*: 46	*DATE:* July 10, 2002
CONTRACT NUMBER: 8248-55	*START CARD NO*: S00631	*RIG MODEL/NO*: SIMCO 5000 (Rig 106)	
PURPOSE: Daily safety meeting. Disassemble and evaluate mast components.	*REFERENCE*: DFSNW-DOW-006, Rev. 0	*LOCATION*: TX Tank Farm, 200 West	
REFERENCE MEASURING POINT: Steel Plate	*TOTAL SHIFT FOOTAGE*: 0.0 ft.		

CONSTRUCTION DESCRIPTION: N/A

CASING SIZE	SET-AT DEPTH	TYPE CASING	DRIVE POINT DIMENSION	START DEPTH	END DEPTH
7.0 " OD	NA	CS	Shoe, 7.5 " OD	20.48 ft	20.48ft

BORING DEPTH:
START: 22.3 ft
END: 22.3 ft

START TIME: 0700
END TIME: 1630
CONTRACTOR TIME: 0.5
TOTAL TIME: 9.5

DOCUMENTED DOWNTIME

Rig repair – 9 hrs.

WEATHER CONDITIONS (373-2716)

10:36: 88F, wind NNW 8 mph, barometric pressure 29.28, humidity 28%, WBGT 78F. Expected to be 103F later.

CASING SUMMARY

Bottom of 7 " OD casing (start of shift) = 20.48 ft.
Bottom of 7" OD casing (end of shift) = 20.48 ft.
Casing (7 in OD) stick up (end of shift) = 1.45 ft.

SAMPLE SUMMARY

N/A

PERSONNEL:
OPERATOR: K. Olson
D Morris/D Curry
WA LICENSE #: 1217
OTHER: D. Skoglie/K. Flower
S. Snook/R. Sharp (Optr)
K. Johnson (PIC)
J. Riley (HPT)

TIME FROM	TO	*DESCRIPTION OF OPERATIONS/REMARKS*
07:00	08:00	BSE/Duratek discussion regarding Rig inspection and
08:00	08:23	Daily safety meeting. Discuss anticipated activities and man-lift operation.
08:23	10:28	Digital photo's were taken of the upper mast components at various disassembly points. The shaft, bearings, and housings were disassembled and surveyed out of TX Tank Farm. The lower shaft was evaluated for flaws, no flaws were noted. The chain has wear on the top of the mast. Due to high loading and wear a recommendation to replace the chain was made by Duratek's field representative. The mast components were taken to the BSE shop (with the exception of half the shaft and sprocket.
10:28	11:30	Further evaluation was made of the drill mast components. No problems were noted.
11:30	12:00	Lunch
12:00	13:11	The 7 inch casing slips were removed and cleaned.
13:11	14:06	WBGT 82F @ 13:11 hrs. (100% work regimen for light work). Light work is being conducted. Personnel out of farm at 13:40 hrs for cool down break. Back in farm @ 14:06 hrs.
14:06	14:50	WBGT 86F @ 14:50 (100F). Crew pulled from tank farm. Area secured.
14:50	16:30	A discussion and evaluation on the 7 inch casing slips were conducted. Further evaluation will need to be conducted to resolve slippage problems.

REPORT BY: DE Skoglie
TITLE: Field Team Lead
SIGNATURE: D. E. Skoglie

REVIEWED BY: MG Gardner
TITLE: Project Manager DATE: 9-24-02
SIGNATURE: MGardner

Duratek Federal Services, Inc., Northwest Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: C3831	*WELL NUMBER*: N/A	*REPORT NUMBER*: 47	*DATE*: July 11, 2002 Thursday
CONTRACT NUMBER: 8248-55	*START CARD NO*: S00631	*RIG MODEL/NO*: SIMCO 5000 (Rig 106)	
PURPOSE: Daily safety meeting. Assemble and evaluate mast components.	*REFERENCE*: DFSNW-DOW-006, Rev. 0	*LOCATION*: TX Tank Farm, 200 West	
REFERENCE MEASURING POINT: Steel Plate	*TOTAL SHIFT FOOTAGE*: 0.0 ft.		

CONSTRUCTION DESCRIPTION: N/A

CASING SIZE	SET-AT DEPTH	TYPE CASING	DRIVE POINT DIMENSION	START DEPTH	END DEPTH
7.0 " OD	NA	CS	Shoe, 7.5 " OD	20.48 ft	20.48ft

BORING DEPTH:
START: 22.3 ft
END: 22.3 ft

START TIME: 0700
END TIME: 1630
CONTRACTOR TIME: 0.5
TOTAL TIME: 9.5

DOCUMENTED DOWNTIME

Rig repair – 9 hrs.

WEATHER CONDITIONS (373-2716)

07:25: 74F, wind W 4 mph, barometric pressure 29.22, humidity 40%, WBGT 78F. Expected to be 108F.

CASING SUMMARY

Bottom of 7 " OD casing (start of shift) = 20.48 ft.
Bottom of 7" OD casing (end of shift) = 20.48 ft.
Casing (7 in OD) stick up (end of shift) = 1.45 ft.

SAMPLE SUMMARY

N/A

PERSONNEL:
OPERATOR: K. Olson
D Morris/D Curry
WA LICENSE #: 1217
OTHER: D. Skoglie/K. Flower
S. Snook/R. Sharp (Optr)
K. Johnson (PIC)
J. Riley (HPT)

TIME FROM	TO	*DESCRIPTION OF OPERATIONS/REMARKS*
07:00	08:10	A discussion was held (BSE/Duratek) regarding equipment break-down and issues surrounding break-down and repair.
08:10	08:30	Conduct daily and weekly safety meeting. Weekly safety meeting topic is Heat Stress Control. A discussion was conducted regarding anticipated daily scope of work.
08:30	09:45	Enter TX Tank Farm and install 2 inch shaft (2" diameter x 2 ft), Dodge couplings (FBUN 2200, size 2 ", stk # 048039), and Martin gear (J00B512 2). It was noted that the shaft alignment is 0.5 inch high on the operator's side. The field crew leaves for BSE shop.
		WBGT reading @ 09:21 is 76 F (88 F temperature). An IH tech was in the TX farm monitoring WBGT for the dry well crew. The reading on his instrument @ 09:21 was 78 F. Personnel out of TX tank farm @ 09:45. Are secured.
09:45	12:20	IH tech (Mr. Del Spaulding) has turned a white card into the CCC office. The white card shuts down the TX job due to heat conditions. The Project IH (Mr. Mike Zabel), CHG Safety (Ms. Kim Cutforth), Project Manager (Mr. Harold Sydnor), Duratek safety (Mr. Jason Swessy) and the CHG operations support and myself resolved the stoppage by reviewing the procedure and placing an IH tech/WBGT instrument at the TX Tank Farm while CHG personnel are working. The Duratek AHA was changed to state that scrubs can be worn during driving/working conditions.
12:20	12:50	Lunch
12:50	16:30	High heat conditions shut down job for the rest of the day. Area secured.

REPORT BY: DE Skoglie
TITLE: Field Team Lead
SIGNATURE: D. E. Skoglie

REVIEWED BY: MG Gardner
TITLE: Project Manager DATE: 9-24-02
SIGNATURE: MG Gardner

Duratek Federal Services, Inc., Northwest Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: C3831	*WELL NUMBER*: N/A	*REPORT NUMBER*: 48	*DATE:* July 12, 2002 Friday
CONTRACT NUMBER: 8248-55	*START CARD NO*: S00631	*RIG MODEL/NO*: SIMCO 5000 (Rig 106)	
PURPOSE: Daily safety meeting. Assemble and evaluate mast components.	*REFERENCE*: DFSNW-DOW-006, Rev. 0	*LOCATION*: TX Tank Farm, 200 West	
REFERENCE MEASURING POINT: Steel Plate	*TOTAL SHIFT FOOTAGE*: 0.0 ft.		

CONSTRUCTION DESCRIPTION: N/A

CASING SIZE	SET-AT DEPTH	TYPE CASING	DRIVE POINT DIMENSION	START DEPTH	END DEPTH
7.0 " OD	NA	CS	Shoe, 7.5 " OD	20.48 ft	20.48ft

BORING DEPTH: START: 22.3 ft
END: 22.3 ft

START TIME: 0700
END TIME: 1530
CONTRACTOR TIME: 0.5
TOTAL TIME: 8

DOCUMENTED DOWNTIME

Rig repair – 9 hrs.

WEATHER CONDITIONS (373-2716)

08:25: 87F, wind W 4 mph, barometric pressure 29.16, humidity 29%, WBGT 78F. Expected to be 110F.

CASING SUMMARY

Bottom of 7 " OD casing (start of shift) = 20.48 ft.
Bottom of 7" OD casing (end of shift) = 20.48 ft.
Casing (7 in OD) stick up (end of shift) = 1.45 ft.

SAMPLE SUMMARY

N/A

PERSONNEL:
OPERATOR: K. Olson
D Morris/D Curry
WA LICENSE #: 1217
OTHER: DE Gostovich/K. Flower

K. Johnson (PIC)
K. Hartieulius (HPT)

TIME FROM	TO	*DESCRIPTION OF OPERATIONS/REMARKS*
07:00	07:15	A discussion was held (BSE/Duratek) regarding equipment repair and what will need to get done before the temp. Gets too high to work in the farm. The new dress requirements were also discussed and that CHG was going to order what will be needed. The new requirements will be shorts, a tee shirt and scrubs
07:15	07:30	Conduct daily meeting.
07:30	08:00	Enter TX Tank Farm and removed the chains from the farm using the forklift the HPT surveyed the chains before they were loaded onto a pickup,.
08:00	08:15	The crew had to wait on a rigger to get here before they went back into the farm.
08:15	10:00	The rigger arrived and after he was signed in the crew went back into the farm to remove the shaft that had been previously been installed. They also had to make a template of the miss alignment of the shaft. The crew finished up in the farm and exited the tank farm..
10:00	10:30	After the crew got in we discussed what they did. They then went back to their shop.
		Mr. Flowers called the rig manufacture about the tension on the chains. The manufacture said that it doesn't matter if the shaft is out of aligning. When the chains are adjusted properly it compensates for the miss alignment. If the chains are to tight it will cause the shaft to bend and flex.. The chains that were on the rig were to tight, according to the way the manufacture said they should be adjusted.

REPORT BY: DE Gostovich
TITLE: Field Team Lead
SIGNATURE: D.E. Skoglie for

REVIEWED BY: MG Gardner
TITLE: Project Manager DATE: 9-24-02
SIGNATURE: MGard

Duratek Federal Services, Inc., Northwest Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: C3831	*WELL NUMBER*: N/A	*REPORT NUMBER*: 49	*DATE*: July 15, 2002 Monday
CONTRACT NUMBER: 8248-55	*START CARD NO*: S00631	*RIG MODEL/NO*: SIMCO 5000 (Rig 106)	
PURPOSE: Daily safety meeting. Assemble and evaluate mast components.	*REFERENCE*: DFSNW-DOW-006, Rev. 0	*LOCATION*: TX Tank Farm, 200 West	
REFERENCE MEASURING POINT: Steel Plate	*TOTAL SHIFT FOOTAGE*: 0.0 ft.		

CONSTRUCTION DESCRIPTION: N/A

CASING SIZE	SET-AT DEPTH	TYPE CASING	DRIVE POINT DIMENSION	START DEPTH	END DEPTH
7.0 " OD	NA	CS	Shoe, 7.5 " OD	20.48 ft	20.48ft

BORING DEPTH:
START: 22.3 ft
END: 22.3 ft

START TIME: 0700
END TIME: 1530
CONTRACTOR TIME: 0.5
TOTAL TIME: 8

DOCUMENTED DOWNTIME

Rig repair – 9 hrs.

WEATHER CONDITIONS (373-2716)

08:07: 67F, wind S 4 mph, barometric pressure 29.13, humidity 30%, WBGT 65F. Expected to be 98F today.

CASING SUMMARY

Bottom of 7 " OD casing (start of shift) = 20.48 ft.
Bottom of 7" OD casing (end of shift) = 20.48 ft.
Casing (7 in OD) stick up (end of shift) = 1.45 ft.

SAMPLE SUMMARY

N/A

PERSONNEL:
OPERATOR: K. Olson
D Morris/D Curry
WA LICENSE #: 1217
OTHER: D Skoglie
K. Flower
K. Johnson (PIC)
(HPT)

TIME FROM	TO	*DESCRIPTION OF OPERATIONS/REMARKS*
07:00	07:30	A discussion was held (BSE/Duratek) regarding equipment repair. All replacement parts are on-site.
07:30	07:55	Conduct daily safety meeting.
07:55	08:07	Haul equipment to work location with the forklift. WBGT @ 08:07 is 65F.
08:07	10:08	The installation holes were reamed to align the shaft to the mast. Install Dodge couplings (one per side) on the inside of the mast, sprockets, and shaft. The WBGT @ 09:00 is 70F. The man-lift was fueled. The allen screws were not tightened on the shaft. A rope was ran in the chain channel to aid in installation of the chain. WBGT measurement is 72F @ 10:00 hrs.
10:08	10:25	Water break.
10:25	11:47	Install the chain and attach to the rotary head's connections. The bushing (Martin 3020 2) was installed on the lower shaft. The bushing is steel versus aluminum. WBGT is @ 73F @ 11:00 hrs.
11:47	12:25	Lunch
12:25	13:27	Chain installation in progress. The latest WBGT is 80F @ 13:00 hrs. Personnel come out of TX tank farm for water/rest break (13:27 hrs.). Re-enter tank farm @ 13:45 hrs.
13:45	15:05	Chain installation in progress. WBGT is 79F @ 14:00 hrs. Out of tank farm @ 14:30 hrs. Re-enter TX tank farm @ 15:05 hrs. Current WBGT 76F @ 15:00 hrs.
15:05	16:20	Continue chain installation and adjustment. The half link will not install at the adjustment nut, the half links were removed and installation initiated.
16:20	16:30	Secure TX Tank Farm.
MGG 9-24-02		

REPORT BY: DE Skoglie
TITLE: Field Team Lead
SIGNATURE: D. E. Skoglie

REVIEWED BY: MG Gardner
TITLE: Project Manager DATE: 9-24-02
SIGNATURE: MG Gardner

Duratek Federal Services, Inc., Northwest Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: C3831	*WELL NUMBER*: N/A	*REPORT NUMBER*: 50	*DATE*: July 16, 2002 Tuesday
CONTRACT NUMBER: 8248-55	*START CARD NO*: S00631	*RIG MODEL/NO*: SIMCO 5000 (Rig 106)	
PURPOSE: Daily safety meeting. Assemble and evaluate mast components.	*REFERENCE*: DFSNW-DOW-006, Rev. 0	*LOCATION*: TX Tank Farm, 200 West	
REFERENCE MEASURING POINT: Steel Plate		*TOTAL SHIFT FOOTAGE*: 0.0 ft.	

CONSTRUCTION DESCRIPTION: N/A

CASING SIZE	SET-AT DEPTH	TYPE CASING	DRIVE POINT DIMENSION	START DEPTH	END DEPTH
7.0 " OD	NA	CS	Shoe, 7.5 " OD	20.48 ft	20.48ft

BORING DEPTH: START: 22.3 ft
END: 22.3 ft

START TIME: 0700
END TIME: 1530
CONTRACTOR TIME: 0.5
TOTAL TIME: 8

DOCUMENTED DOWNTIME

Rig repair – 9 hrs.

WEATHER CONDITIONS (373-2716)

08:37: 76F, wind SW 4 mph, barometric pressure 29.08, humidity 42%. Expected to be 97F today.

CASING SUMMARY

Bottom of 7 " OD casing (start of shift) = 20.48 ft.
Bottom of 7" OD casing (end of shift) = 20.48 ft.
Casing (7 in OD) stick up (end of shift) = 1.45 ft.

SAMPLE SUMMARY

N/A

PERSONNEL:
OPERATOR: K. Olson
D Morris/D Curry
WA LICENSE #: 1217
OTHER: D Skoglie
K. Flower
K. Johnson (PIC)
K. Hartelius (HPT)

TIME FROM	TO	*DESCRIPTION OF OPERATIONS/REMARKS*
07:00	07:30	A discussion was held (BSE/Duratek) regarding equipment maintenance, inspection and operational awareness. A daily safety meeting was held, which discussed anticipated activities.
07:30	09:55	The TX tank farm gate was unlocked and personnel entered to continue chain installation. WBGT 71F @ 08:00 hrs.
09:55	10:15	Water/rest break WBGT 77F @10:00 hrs.
10:15	11:10	Crew working on chain adjustment. Chain is to long, will need to remove link. Rod racks/casing/Dp set-up on work location. Mister moved into position. WBGT 80F @ 11:00 hrs. Temperature 88 F.
11:10	11:45	Water/break/lunch
11:45	12:15	Discussion regarding chain installation. The mast was layed over for adjustment purposes. A half link will need removed as too much slack was present when the mast was raised and adjustment performed. WBGT is 78F and temperature is 89F @ 12:00 hrs.
12:15	13:30	Crew enters TX tank farm to remove link and re-adjust chain. Crew leaves work zone for work/rest regimen @ 13:00 hrs. WBGT is 80F @ 13:00 hrs. Temperature is 93F.
13:30	13:58	Chain adjustment complete for today. Additional adjustment will be required when chain is stretched.
13:58	14:15	Crew exits farm and conducts work/rest regimen. WBGT is 82F @ 14:00 hrs. Temperature is 96F. Crew enters TX tank farm.
14:15	15:30	Raise mast and check chain adjustment. The Chain was adjusted until adequate slack was acquired. The hammer was raised and lowered several feet to remove slack. The lower adjustment is out of movement, the next time the chain needs to be adjusted the top will need adjusted (tightened) and the lower adjustment loosened. Adjustment is OK.
		Bore hole advancement will take place tomorrow AM.
15:30	15:50	Area Secured and gate locked.

REPORT BY: DE Skoglie
TITLE: Field Team Lead
SIGNATURE: D.E. Skoglie

REVIEWED BY: MG Gardner
TITLE: Project Manager DATE: 9-24-02
SIGNATURE: M Gardner

Duratek Federal Services, Inc., Northwest Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: C3831	*WELL NUMBER*: N/A	*REPORT NUMBER*: 51	*DATE:* July 17, 2002 Wednesday
CONTRACT NUMBER: 8248-55	*START CARD NO*: S00631	*RIG MODEL/NO*: SIMCO 5000 (Rig 106)	
PURPOSE: Daily and weekly safety meeting. Continue driving operations.	*REFERENCE*: DFSNW-DOW-006, Rev. 0	*LOCATION*: TX Tank Farm, 200 West	
REFERENCE MEASURING POINT: Steel Plate		*TOTAL SHIFT FOOTAGE*: 5.66 ft.	

CONSTRUCTION DESCRIPTION: N/A

CASING SIZE	SET-AT DEPTH	TYPE CASING	DRIVE POINT DIMENSION	START DEPTH	END DEPTH
7.0 " OD	NA	CS	Shoe, 7.5 " OD	20.48 ft	27.96ft

BORING DEPTH: START: 22.3 ft
END: 27.96 ft

START TIME: 0700
END TIME: 1530
CONTRACTOR TIME: 0.5
TOTAL TIME: 8

DOCUMENTED DOWNTIME

Rig repair 30 min.

WEATHER CONDITIONS (373-2716)

07:33: 72F, wind W 4 mph, barometric pressure 29.11, humidity 52%.

CASING SUMMARY

Bottom of 7 " OD casing (start of shift) = 20.48 ft.
Bottom of 7" OD casing (end of shift) = 27.96 ft.
Casing (7 in OD) stick up (end of shift) = 0.85 ft.

SAMPLE SUMMARY

N/A

PERSONNEL:
OPERATOR: K. Olson
D Morris/D Curry
WA LICENSE #: 1217
OTHER: D Skoglie
K. Flower/K. Young
K. Johnson (PIC) S. Snook (Opr)
K. Hartilius (HPT)

TIME FROM	TO	*DESCRIPTION OF OPERATIONS/REMARKS*
07:00	07:33	Conduct daily and weekly safety meeting. Daily safety meeting discussed anticipated work, resolution of procedure Heat Stress Control. Items resolved are (1) WBGT measurements will be taken from the weather station, and (2) coveralls (blues) and modesty clothing are considered summer work uniform. No denim can be worn for modesty clothing. Weekly safety meeting discussed Equipment maintenance and operation.
07:33	08:25	Enter TX tank farm. Install plex glass cover on hammer. Adjust cable braces. Conduct equipment inspection. No deficiencies noted. Raise the hammer and secure in mast. Install spacer in lower shaft (30 min).
08:25	08:54	Run Dp to bottom of casing (08:33). Add casing 5.0 ft (total 30.43 ft) and DP 5.0 ft (total 31.07 ft).
08:54	11:15	Adjust drive head and level rig. Set-up hammer 09:05. Drive casing 7/11/11. Depth of casing 23.98 ft bgs. The 7 inch casing back-pull slips in gauged and two hammer blows fired. The operator had turned off the fuel to the hammer as soon as he heard the hammer hit hard. Two of the three hydraulic cylinders that engage the slips were damaged. Cylinders will be ordered. The wrenches were pulled apart and casing slips removed. The slips were not moving freely due to foreign material. The wrenches were re-installed. WBGT is 78F @ 10:00 hrs. WBGT is 80F @ 11:00 hrs.
11:15	12:00	Set-up drive head and level rig. Set-up hammer. Drive casing to 26.16 ft bgs. Blows 7/9/12/11/12. Disconnect drive head and secure hammer. New constant of 3.42 ft. Exit TX tank farm for lunch. Lunch 12:00 – 12:30
12:35	12:56	Add casing 2 ft. (total 32.43 ft.) and DP 2 ft. (total 33.07 ft). Set-up the hammer.
12:56	12:57	Drive casing to a depth of 27.96 ft bgs. 32.43 – (3.42 + 1.05) = 27.96 ft. Blows were 12/10.
12:57	13:20	Secure hammer., disassemble drive head, and remove 2 ft. Dp. Back-pull casing .25 ft.
13:20	14:05	WBGT is 81F @ 13:00 hrs. The drive tip is stuck in the casing. Several attempts were made to release the drive tip without success. Water rest break (13:50 – 14:05)
14:05	15:00	A bottle jack (20T) was picked up to help apply pressure on the drive tip. The system applied some pressure, however it was not adequate to release the drive tip. Water break and rest. WBGT is 82F @ 14:00 hrs temperature is 96F. Water rest break (14:35 – 15:00). WBGT is 84F @ 15:00 hrs. Temperature 100F.
15:00	15:30	The drive tip was attempted to be pulled. The tip did not come free. Secure site and lock gate.
15:30	16:30	Additional tools will be picked up for tomorrow in an attempt to free the tip. If unsuccessful the casing and drill pipe will be pulled.

REPORT BY: DE Skoglie
TITLE: Field Team Lead
SIGNATURE: D.E. Skoglie

REVIEWED BY: MG Gardner
TITLE: Project Manager DATE: 9-24-02
SIGNATURE: MG Gardner

Duratek Federal Services, Inc., Northwest Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 2

WELL I.D.: C3831	*WELL NUMBER*: N/A	*REPORT NUMBER*: 52	*DATE*: July 18, 2002 Thursday
CONTRACT NUMBER: 8248-55	*START CARD NO*: S00631	*RIG MODEL/NO*: SIMCO 5000 (Rig 106)	
PURPOSE: Daily and weekly safety meeting. Remove inner string. Obtain sample S02057-03.	*REFERENCE*: DFSNW-DOW-006, Rev. 0	*LOCATION*: TX Tank Farm, 200 West	
REFERENCE MEASURING POINT: Steel Plate	*TOTAL SHIFT FOOTAGE*: 17.1 ft.		

CONSTRUCTION DESCRIPTION: N/A

CASING SIZE	SET-AT DEPTH	TYPE CASING	DRIVE POINT DIMENSION	START DEPTH	END DEPTH
7.0 " OD	NA	CS	Shoe, 7.5 " OD	27.96 ft	45.06

BORING DEPTH: START: 27.96 ft
END: 45.06 ft

START TIME: 0700
END TIME: 1530
CONTRACTOR TIME: 0.5
TOTAL TIME: 8

DOCUMENTED DOWNTIME

N/A

WEATHER CONDITIONS (373-2716)

08:03 75F, wind S 4 mph, barometric pressure 29.16, humidity 46%.

CASING SUMMARY

Bottom of 7 " OD casing (start of shift) = 27.96 ft.
Bottom of 7" OD casing (end of shift) = 45.06 ft
Casing (7 in OD) stick up (end of shift) = 0.95 ft.

SAMPLE SUMMARY

Sample: S02057-03 (#3) 27.96 – 29.21 (1.25 ft)

PERSONNEL:

OPERATOR: K. Olson
D Morris/D Curry
WA LICENSE #: 1217
OTHER: DE Gostovich
K. Flower/K. Young
K. Johnson (PIC) S. Snook (Opr)
K. Hartelius (HPT)

TIME FROM	TO	*DESCRIPTION OF OPERATIONS/REMARKS*
07:00	07:45	Conduct daily and weekly safety meeting. Daily safety meeting discussed anticipated work, what will be done in an attempt to free the inner casing from the outer 7" casing. It was decided that using two 12 ton jacks connected to the inner casing, they would try and jack the casing free.
07:45	08:45	Entered TX tank Farm. The jacks were set up so the inner string could be pulled. The inter string of pipe came loose. The crew then readjusted the casing jacks and got everything back into line.
08:45	09:15	Started removing the inner string (Dp) from the 7" casing. When the head was inspected it was determined that the bottom o-ring had turned, and that was what keep the inner string from being pulled out. It was decided that a petroleum-based lubricant would stop this from happing again.
0915	10:00	After the drive string was removed, the sampled was picked up and the sampler installed into the casing to a depth of 27.96'. The sampler was driven to 29.21ft. It took 3 blows to get the sampler to depth. The sampler was removed and the sample time was 10:21 hrs. Sample in drum @ 10:21 hrs.
10:00	10:30	Crew out of farm and took a brake.
10:30	11.30	The crew is back in the farm and going back in with the inner string of pipe. The 2ft piece of 7" casing was first removed. The first joint of 7" was picked up and driven to33.90ft. Blows 11/8/12/11/8.The next joint of 7'casing was picked up and set up. The crew came out of the farm for lunch (11:30 – 12:00)
12:00	1300	The second 5ft was driven down. The third 5ft of 7" was set up and driven down The crew then cam out of the farm for water and .15min break.
1300	1400	WBGT is 81F @ 13:00 hrs. The 4ft piece of 7" casing was picked up and pounded down. That will put 49.43 ft of casing picked up. The sample point will be at 45.06ft. The WBGT is at 84F so the crew is on 50/50 work /rest. After the 4ft was pounded down the crew came out for water and rest (14:00 – 14:35).
1435	.1510	The crew is back in the farm getting set up to pull the inner string of pipe. The inner string was removed. The rig was secured and the crew came out for the day. Complete documentation 16:30.

REPORT BY: DE Gostovich
TITLE: Field Team Lead
SIGNATURE: D.E. Skoglie for

REVIEWED BY: MG Gardner
TITLE: Project Manager DATE: 9-24-02
SIGNATURE: MG Gardner

Duratek Federal Services, Inc., Northwest Operations

SAMPLE FORM

FAR No. 52 Page 2 of 2

Sample No. S020S7-03 Sample Tracking No. 03

Target Depth 28 to 29

(1) 3.42 top of rig floor above ground

(2) 4.47 casing stickup above ground

Csg Total (3) 32.43 - Stickup (2) 4.47 = TD (4) 27.96

Does not include drive head

Backpull stickup (2+5) .25

Sample depth (4) 27.96 to (4+6) 29.21

Blow Count

1.25 ~~1.5~~ ft

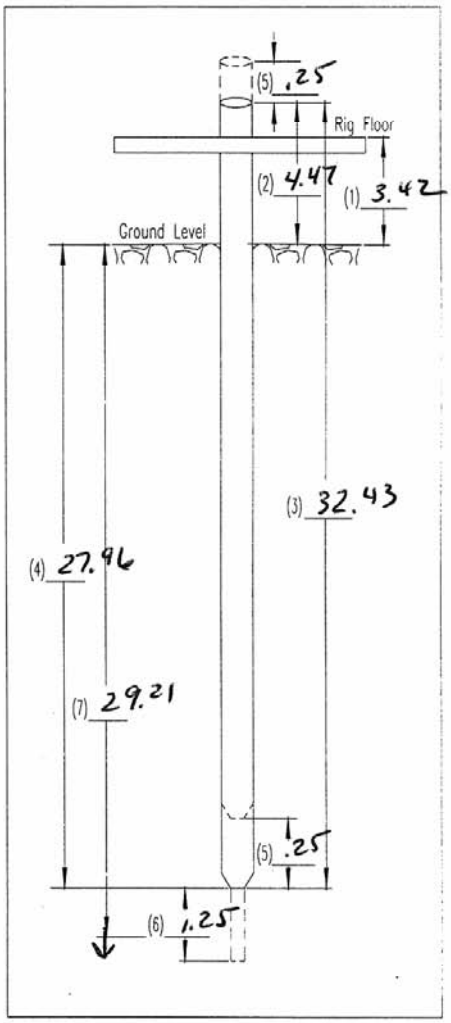
	.5 ft	1 ft	~~1.5 ft~~
Start Time 1000	1	1	1
End Time 1001			

Estimated Recovery: 100%

Remarks:

SAMPLE IN DRUM @ 1021 hrs.

1 = Top of rig floor above ground
2 = Stickup of csg above ground 1 + measure from floor to top csg = SU
3 = Total csg length
4 = Depth of csg = Total Depth (TD)
Total csg – SU(2) = TD
5 = Casing back pull
6 = Sampler drive distance
7 = Total depth of driven sample = 4 + 6



PREPARED BY (Please print): D.E. SKOGLIE
TITLE: FTL DATE: 071802
SIGNATURE: D.E. Skoglie

REVIEWED BY (Please print): MG GARDNER
TITLE: Manager DATE: 9-24-02
SIGNATURE: MG Gardner

DFSNW-WS-00__

Duratek Federal Services, Inc., Northwest Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 2

WELL I.D.: C3831	*WELL NUMBER*: N/A	*REPORT NUMBER*: 53	*DATE*: July 22, 2002 Monday
CONTRACT NUMBER: 8248-55	*START CARD NO*: S00631	*RIG MODEL/NO*: SIMCO 5000 (Rig 106)	
PURPOSE: Daily and weekly safety meeting. Remove inner string. Obtain sample S02057-03.	*REFERENCE*: DFSNW-DOW-006, Rev. 0	*LOCATION*: TX Tank Farm, 200 West	
REFERENCE MEASURING POINT: Steel Plate		*TOTAL SHIFT FOOTAGE*: 1.33 ft.	

CONSTRUCTION DESCRIPTION: N/A

CASING SIZE	SET-AT DEPTH	TYPE CASING	DRIVE POINT DIMENSION	START DEPTH	END DEPTH
7.0 " OD	NA	CS	Shoe, 7.5 " OD	45.06 ft	45.06

BORING DEPTH: START: 45.06 ft
END: 46.39 ft

START TIME: 0700
END TIME: 1630
CONTRACTOR TIME: 0.5
TOTAL TIME: 9.5

DOCUMENTED DOWNTIME

N/A

WEATHER CONDITIONS (373-2716)

07:30 81F, wind NW 7 mph, barometric pressure 29.2, humidity 29%.

CASING SUMMARY

Bottom of 7 " OD casing (start of shift) = 45.06 ft.
Bottom of 7" OD casing (end of shift) = 45.06 ft
Casing (7 in OD) stick up (end of shift) = 0.95 ft.

SAMPLE SUMMARY

Sample: S02057-04 (#4) 45.06 – 46.39 (1.33 ft)

PERSONNEL:
OPERATOR: K. Olson
D Morris/D Curry
WA LICENSE #: 1217
OTHER: DE Gostovich
K. Flower/K. Young
K. Johnson (PIC) S. Snook (Opr)
J. Clayton (HPT)

TIME FROM	TO	*DESCRIPTION OF OPERATIONS/REMARKS*
07:00	07:30	Conduct daily safety meeting. Daily safety meeting discussed anticipated work. The temperature and the work/rest regimens were discussed. The coming in early was talked about. It is not something that may happen, due to the union work rules.
07:30	08:30	The crew went into the farm to lower the mast and do their PM maintenance. The HPT has not arrived yet to set up the air samplers. When the crew did their inspection they found a crack in the top shaft bearing housing in a bolt hole. The crack won't affect safety, but it will have to be repaired. The crew set up the rig again and exited the farm.
08:30	09:45	After talking with the PIC we decided to make the repairs before doing any work. We were able to get a person to operate the man-lift. Morris went to town to get the part that is needed, and the rest of the crew went back into the farm to lay the rig mast over again. As soon as the rigger arrives the broken part will be removed (09:30). Crew waiting on rigger.
09:45	10:30	Rigger arrived and the crew is back in the farm to take the pieces apart using the man-lift. At 10:00 the WBGT is 77F. Crew removed the broken part and came out for a break.
10:30	10:45	The crew is out of the farm. The new part arrived while the crew was on a water break.
10:45	11:30	The crew went back into the farm to put equipment back together. The crew left for lunch. The repairs are almost completed. The chains need to be tightened. Lunch 11:45 – 12:15.
12:15	14:15	The crew went back into the farm. Mr Flower showed up at 12:30. WBGT at 12:30 is 80F and Temperature is 95F. The rig is repaired @ 14:00. The WBGT @ 13:15 was 82F, temperature is 96F. The crew will work until 14:00 before they have to take a break. Crew came out of the far.
14:15	16:30	WBGT @ 14:14 was 82F, temperature is 98F. The split spoon was ran in to a depth of 45.06 ft. The sample was taken to a depth of 46.39 ft bgs. Blow 2/2/1. The sampler was removed from the boring. Sample time was 15:22 hrs. The crew secured the rig and came out of the farm. Complete documentation 16:30 hrs.

REPORT BY: DE Gostovich
TITLE: Field Team Lead
SIGNATURE: D. E. Skoglie for

REVIEWED BY: MG Gardner
TITLE: Project Manager DATE: 9-24-02
SIGNATURE: MGGard

Duratek Federal Services

Duratek Federal Services, Inc., Northwest Operations

SAMPLE FORM

FAR No. 53 Page 2 of 2

Sample No. S02057-04 Sample Tracking No. 04

Target Depth 45 to 46

(1) 3.42 top of rig floor above ground

(2) 4.37 casing stickup above ground

Csg Total (3) 49.43 - Stickup (2) 4.37 = TD (4) 45.06

Does not include drive head

Backpull stickup (2+5) .25

Sample depth (4) 45.06 to (4+6) 46.39

Blow Count

1.33 MBG 9-24-02

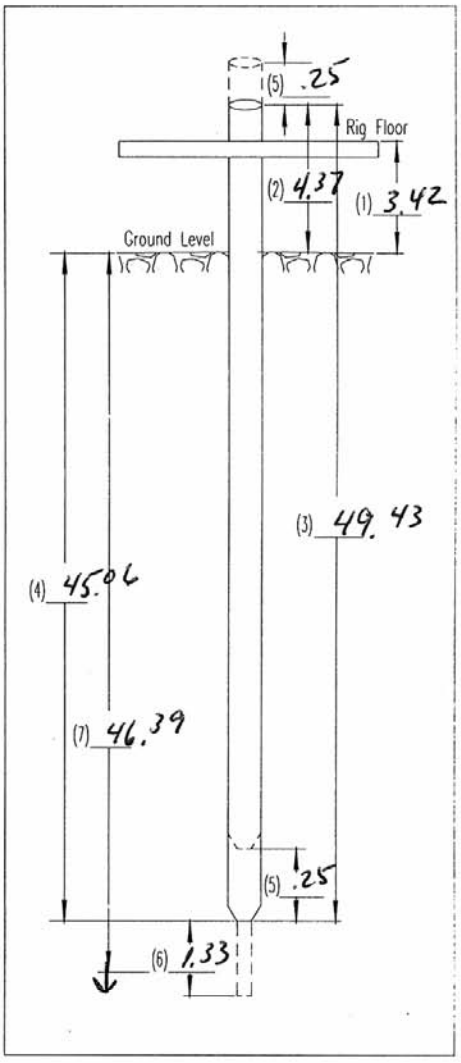
	.5 ft	1 ft	~~1.5 ft~~
Start Time 15:00	2	2	1
End Time 15:01			

Estimated Recovery: 100%

Remarks:

SAMPLE IN DRUM @ 1522 HRS.

1 = Top of rig floor above ground
2 = Stickup of csg above ground 1 + measure from floor to top csg = SU
3 = Total csg length
4 = Depth of csg = Total Depth (TD)
Total csg – SU(2) = TD
5 = Casing back pull
6 = Sampler drive distance
7 = Total depth of driven sample = 4 + 6



PREPARED BY (Please print): D.E. SKOGLIE
TITLE: FTL DATE: 072202
SIGNATURE: D.E. Skoglie

REVIEWED BY (Please print): MBGARSNER
TITLE: Manager DATE: 9-24-02
SIGNATURE: MBGarsner

DFSNW-WS-00__

Duratek Federal Services, Inc., Northwest Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 4

WELL I.D.: C3831	*WELL NUMBER*: N/A	*REPORT NUMBER*: 54	*DATE*: July 23, 2002 Tuesday
CONTRACT NUMBER: 8248-55	*START CARD NO*: S00631	*RIG MODEL/NO*: SIMCO 5000 (Rig 106)	
PURPOSE: Daily and weekly safety meeting. Obtain samples S02057-05, S02057-06 and S02057-07.	*REFERENCE*: DFSNW-DOW-006, Rev. 0	*LOCATION*: TX Tank Farm, 200 West	
REFERENCE MEASURING POINT: Steel Plate		*TOTAL SHIFT FOOTAGE*: 13.85 ft.	

CONSTRUCTION DESCRIPTION: N/A

CASING SIZE	SET-AT DEPTH	TYPE CASING	DRIVE POINT DIMENSION	START DEPTH	END DEPTH
7.0 " OD	NA	CS	Shoe, 7.5 " OD	45.06 ft	59.04 ft

BORING DEPTH:
START: 46.39 ft
END: 60.24 ft

START TIME: 0700
END TIME: 1630
CONTRACTOR TIME: 0.5
TOTAL TIME: 8

DOCUMENTED DOWNTIME
Gate unopened/HPT – 1.5 hrs.

WEATHER CONDITIONS (373-2716 or 373-2710)

0730 80F, wind NE 3 mph, barometric pressure 29.11, humidity 30%.

CASING SUMMARY
Bottom of 7 " OD casing (start of shift) = 45.06 ft.
Bottom of 7" OD casing (end of shift) = 59.04 ft
Casing (7 in OD) stick up (end of shift) = 0.97 ft.

SAMPLE SUMMARY
Sample: S02057-05 (#5a) 51.01 – 52.36 (1.35 ft)
Sample: S02057-06 (#5b) 52.16 – 53.51 (1.35 ft)
Sample: S02057-07 (#6) 59.04 – 60.24 (1.2 ft)

PERSONNEL:
OPERATOR: K. Olson
D Morris/D Curry
WA LICENSE #: 1217
OTHER: DE Skoglie
K. Flower/K. Young
K. Johnson (PIC) S. Snook (Opr)
P Templeton (HPT)

TIME FROM	TO	*DESCRIPTION OF OPERATIONS/REMARKS*
07:00	0730	Conduct daily and weekly safety meeting. Daily safety meeting discussed anticipated work.The temp. and the work / rest regimens were discussed. Going to grave yard shifts were talked about. It looks like it will may happen.
0730	0815	We were waiting on the PIC to open the farm so that the crew could enter and do there inspection and any repairs that might be needed,
0815	0900	Crew entered the farm to do what ever is needed. We still haven't got our HPT. The HPT arrived and set up his air samplers.
0900	1015	The crew removed the 4ft section of casing then put the inter string down to the bottom of the casing. They then picked up two 5ft sections and drove them to a depth of 51.01ft Sample depth. Stick up was 1.0 ft. Casing is back-pulled .25 ft.
1015	1030	Crew came out of the farm for a water break.
10:30	1200	The crew is back in the farm to start pilling the inner string of pipe. The inter string was removed and the split spoon was picked up and ran into the sample depth of 51. 01ft. The sampler was driven to 52.36ft. Blows 2/2/2. The split spoon was removed from the well. The sample number 5 time was 1142. A tag revealed a tag depth of 52.16 ft bgs. The crew came out of the farm for lunch. The WBGT at 1145 was78F.
1230	1415	The crew went back into the farm to start running in the second split spoon. Ran split spoon in to a depth of 52.16ft. The split spoon was driven to a depth of 53.51ft. Blows 2/2/1. The split spoon was removed from the well. The sample was placed in the drum @ 1322. The inner string was then ran back inside the casing. Eight more ft of casing was driven to a depth of 63.43ft. With a stickup of .97ft. The crew came out for water.
1415	1630	The crew is back into the farm. The inner string of pipe was removed from the casing. After the inter string is removed , the split spoon will be ran in to a depth of 59.04ft. Sample depth. The sample was taken and brought back out of the casing. The split spoon was driven to 60.24ft. Blow count of 2/2/1. The sample S02057-07 was placed in the drum @ 1535. The crew secured the casing and came out of the well. Secure site 16:30 hrs.

REPORT BY: DE Skoglie
TITLE: Field Team Lead
SIGNATURE: D. E. Skoglie

REVIEWED BY: MG Gardner
TITLE: Project Manager DATE: 9-24-02
SIGNATURE: MGardner

Duratek Federal Services, Inc., Northwest Operations

SAMPLE FORM

FAR No. 54 Page 2 of 4

Sample No. S02057-05 Sample Tracking No. 5 a

Target Depth 51 to 52

(1) 3.42 top of rig floor above ground

(2) 4.37 casing stickup above ground

Csg Total (3) 55.43 - Stickup (2) 4.42 = TD (4) 51.01

Does not include drive head

Backpull stickup (2+5) .25

Sample depth (4) 51.01 to (4+6) 52.36

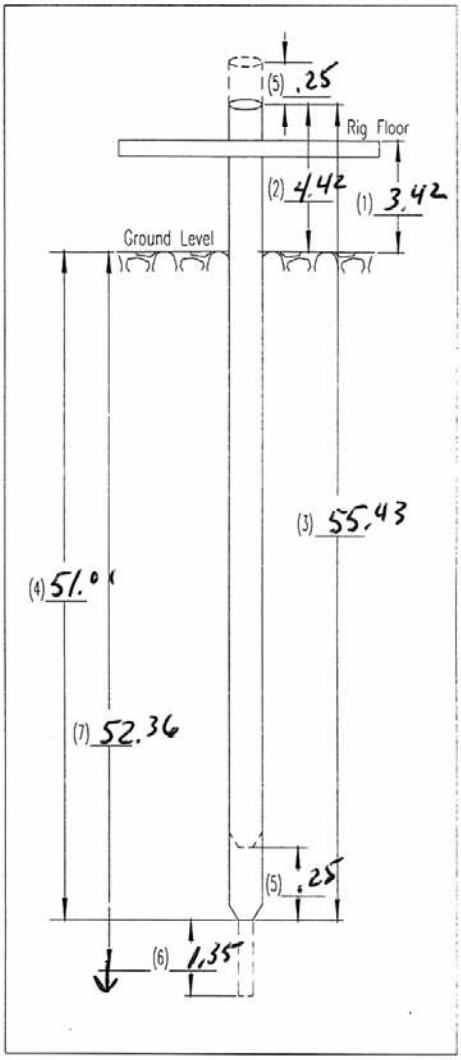
Blow Count 1.35 MGG 9-24-02

	.5 ft	1 ft	~~1.5 ft~~
Start Time 10 55	2	2	2
End Time 1056			

Estimated Recovery: 100%

Remarks:
SAMPLE IN DRUM @ 1142 hrs.

1 = Top of rig floor above ground
2 = Stickup of csg above ground 1 + measure from floor to top csg = SU
3 = Total csg length
4 = Depth of csg = Total Depth (TD)
Total csg – SU(2) = TD
5 = Casing back pull
6 = Sampler drive distance
7 = Total depth of driven sample = 4 + 6



PREPARED BY (Please print): D.E. SKOGLIE
TITLE: FTL DATE: 072302
SIGNATURE: D.E. Skoglie

REVIEWED BY (Please print): MG GARDNER
TITLE: Manager DATE: 9-24-02
SIGNATURE: MGGardner

DFSNW-WS-00__

Duratek Federal Services, Inc., Northwest Operations

SAMPLE FORM

FAR No. 54 Page 3 of 4

Sample No. S020S7-06 Sample Tracking No. 56

Target Depth 52 to 53

(1) 3.42 top of rig floor above ground

(2) 3.93 casing stickup above ground

Csg Total (3) 56.09 - Stickup (2) 3.93 = TD (4) 52.16

Does not include drive head

Backpull stickup (2+5) .25

Sample depth (4) 52.16 to (4+6) 53.51

Blow Count 1.35 MB 9.24.02

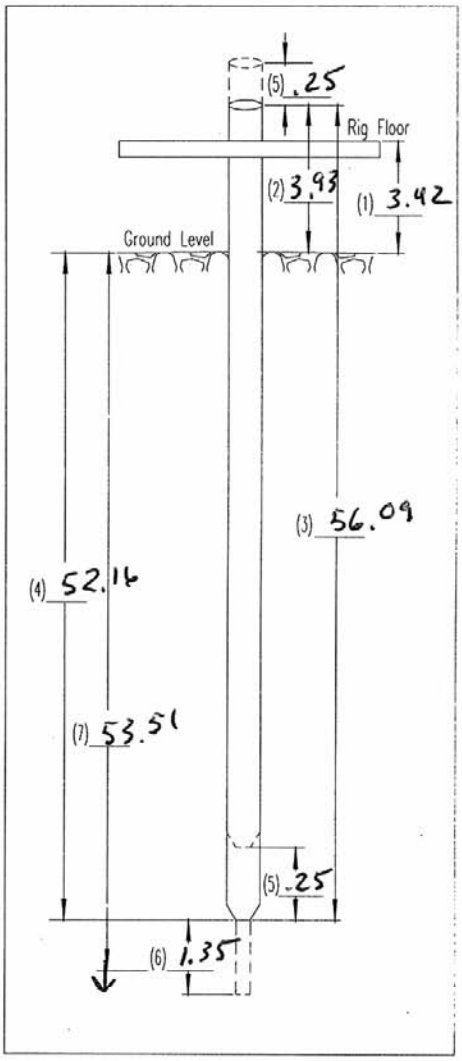
	.5 ft	1 ft	~~1.5 ft~~
Start Time 1240	2	2	1
End Time 1241			

Estimated Recovery: 100%

Remarks:

SAMPLE IN DRUM @ 1322 hrs

1 = Top of rig floor above ground
2 = Stickup of csg above ground 1 + measure from floor to top csg = SU
3 = Total csg length
4 = Depth of csg = Total Depth (TD)
Total csg – SU(2) = TD
5 = Casing back pull
6 = Sampler drive distance
7 = Total depth of driven sample = 4 + 6



PREPARED BY (Please print): D.E. SKOGLIE
TITLE: FTL DATE: 072302
SIGNATURE: D E Skoglie

REVIEWED BY (Please print): M G GARDNER
TITLE: Manager DATE: 9-24-02
SIGNATURE: MGard

DFSNW-WS-00__

Duratek Federal Services, Inc., Northwest Operations

SAMPLE FORM

FAR No. 54 Page 4 of 4

Sample No. 502057-07 Sample Tracking No. 6

Target Depth 59 to 60

(1) 3.42 top of rig floor above ground

(2) 5.05 casing stickup above ground

Csg Total (3) 64.09 - Stickup (2) 5.05 = TD (4) 59.04
Does not include drive head

Backpull stickup (2+5) .25

Sample depth (4) 59.04 to (4+6) 60.24

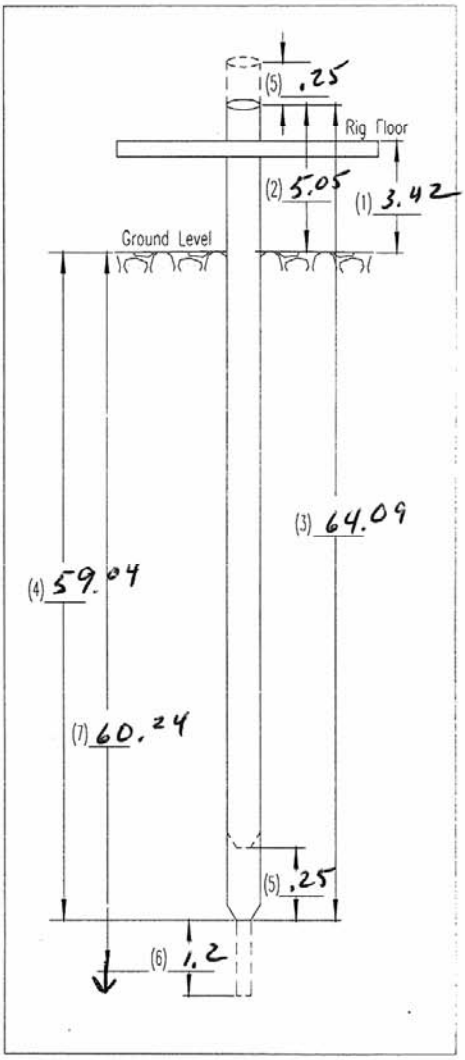
Blow Count 1.2 MBG 9-24-02

	.5 ft	1 ft	~~1.5 ft~~
Start Time 1506	2	2	1
End Time 1508			

Estimated Recovery: 100%

Remarks:
SAMPLE IN DRUM @ 1535 hrs.

1 = Top of rig floor above ground
2 = Stickup of csg above ground 1 + measure from floor to top csg = SU
3 = Total csg length
4 = Depth of csg = Total Depth (TD)
Total csg – SU(2) = TD
5 = Casing back pull
6 = Sampler drive distance
7 = Total depth of driven sample = 4 + 6



PREPARED BY (Please print): D.E. SKOGLIE
TITLE: FTL DATE: 072302
SIGNATURE: D.E. Skoglie

REVIEWED BY (Please print): MB GARDNER
TITLE: Manager DATE: 9-24-02
SIGNATURE: MBGard

DFSNW-WS-00__

Duratek Federal Services

Duratek Federal Services, Inc., Northwest Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 2

WELL I.D.: C3831	*WELL NUMBER*: N/A	*REPORT NUMBER*: 55	*DATE*: July 24, 2002 Wednesday
CONTRACT NUMBER: 8248-55	*START CARD NO*: S00631	*RIG MODEL/NO*: SIMCO 5000 (Rig 106)	
PURPOSE: Daily and weekly safety meeting. Drive and obtain sample S02057-08. Install 7 inch casing puller.	*REFERENCE*: DFSNW-DOW-006, Rev. 0	*LOCATION*: TX Tank Farm, 200 West	
REFERENCE MEASURING POINT: Steel Plate		*TOTAL SHIFT FOOTAGE*: 0.81 ft.	

CONSTRUCTION DESCRIPTION: N/A

CASING SIZE	SET-AT DEPTH	TYPE CASING	DRIVE POINT DIMENSION	START DEPTH	END DEPTH
7.0 " OD	NA	CS	Shoe, 7.5 " OD	59.04 ft	61.05 ft

BORING DEPTH:
START: 60.24 ft
END: 61.05 ft

START TIME: 0700
END TIME: 1530
CONTRACTOR TIME: 0.5
TOTAL TIME: 8

DOCUMENTED DOWNTIME

Install hydraulic cylinders and 7 inch casing pulling system in jacks - 3.5 hrs.

WEATHER CONDITIONS (373-2716 or 373-2710)

09:41 88F, wind N 4 mph, barometric pressure 29.24, humidity 30%.

CASING SUMMARY

Bottom of 7 " OD casing (start of shift) = 59.04 ft.
Bottom of 7" OD casing (end of shift) = 61.05 ft
Casing (7 in OD) stick up (end of shift) = 0.95 ft.

SAMPLE SUMMARY

Sample: S02057-08 (#7) 60.08 – 61.5 (1.42 ft)

PERSONNEL:
OPERATOR: K. Olson
D Morris/D Curry
WA LICENSE #: 1217
OTHER: D Skoglie
K. Flower/K. Young
K. Johnson (PIC) S. Snook (Opr)
R. Sharp (Opr) P Templeton (HPT)

TIME FROM	TO	*DESCRIPTION OF OPERATIONS/REMARKS*
07:00	07:50	Conduct daily and weekly safety meeting. Discuss anticipated activities during daily. Discuss Refueling Vehicles Safely (Project Hanford Lessons Learned) during weekly safety meeting.
07:50	08:20	No HPT on site. Crew enters TX Tank Farm and conducts maintenance and equipment inspection. Replace hydraulic line on hydraulic jacks.
08:20	08:30	HPT arrives on-site. Start air monitors @ 08:20 hrs. Tag bore-hole @ 60.08 ft bgs (64.09 – (3.42 + .59). Run sampler into bore-hole. Set-up drive head/hammer.
08:30	09:35	Drive sample (S02057-08) 60.08 – 61.5 ft bgs. Blows 2/3/1. Hammer cylinder dripping ATF. Part # 641272 will be ordered for replacement. Trip sample out of bore hole, in drum @ 09:35 hrs. Moisture in top of sampler. No radiological readings on sampler.
09:35	11:40	Back-pull casing ~1 ft. The casing puller assembly will need to be installed with hydraulic rams to pull the remaining 3 ft casing off of the string. WBGT is 79F @ 09:35. Water/rest break 10:40 – 10:55hrs. WBGT is 82F @ 10:52 hrs. Hauled water for mister.
11:40	12:15	Lunch WBGT is 82F @ 12:00
12:15	13:24	Enter work location to complete 7 inch casing puller assembly. Align hydraulic jacks. Casing back-pull slips are working correctly (13:02 hrs.). Water/rest break 13:02 – 13:24
13:24	13:50	Re-attach hydraulic wrenches. Casing slips are working fine. Tag bottom of hole, no standing water. Back pull and remove 3 ft casing. Mr. Gardner on location. WBGT is 84F @ 13:45 hrs.
13:50	14:30	Water/rest break.
14:30		WBGT is 84F @ 14:33 hrs. Add casing 4.99 ft (total 65.42 ft) and Dp 5.0 (total 71.02 ft.) Set up hammer. Drive casing to 61.05 ft bgs (65.42 – [3.42 + 0.95]). Blows 1/1/1/13/23.
	16:30	Exit TX tank Farm @ 15:02 hrs. HPT leaves site @ 15:30 hrs. Complete documentation.

REPORT BY: DE Skoglie
TITLE: Field Team Lead
SIGNATURE: D.E. Skoglie

REVIEWED BY: MG Gardner
TITLE: Project Manager DATE: 9-24-02
SIGNATURE: MGGardner

Duratek Federal Services, Inc., Northwest Operations

SAMPLE FORM

FAR No. 55 Page 2 of 2

Sample No. S02057-08 Sample Tracking No. 7

Target Depth 60 to 61

(1) 3.42 top of rig floor above ground

(2) 4.01 casing stickup above ground

Csg Total (3) 64.09 - Stickup (2) 4.01 = TD (4) 60.08

Does not include drive head

Backpull stickup (2+5) .25

Sample depth (4) 60.08 to (4+6) 61.5

Blow Count 1.42 MG 9-24-02

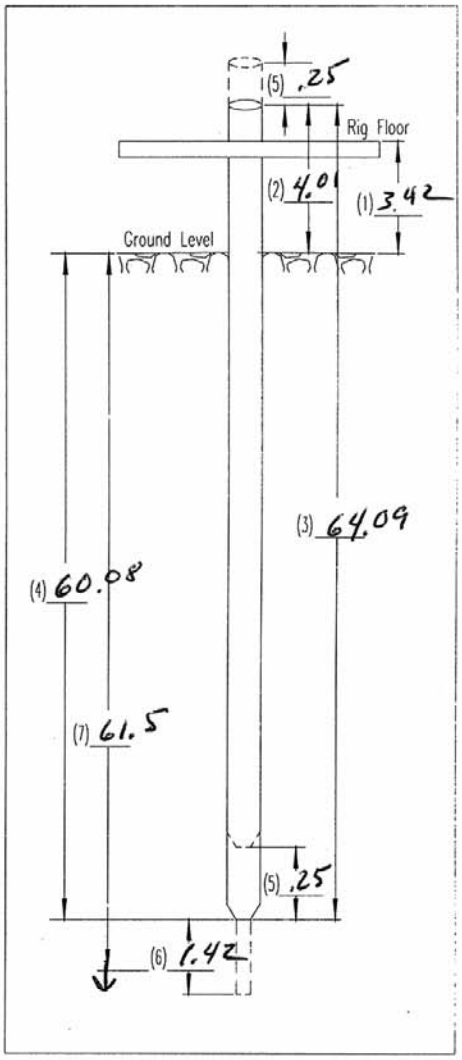
	.5 ft	1 ft	~~1.5 ft~~
Start Time 0830	2	3	1
End Time 0831			

Estimated Recovery: 100%

Remarks:

SAMPLE IN drum @ 0935 hrs.

1 = Top of rig floor above ground
2 = Stickup of csg above ground 1 + measure from floor to top csg = SU
3 = Total csg length
4 = Depth of csg = Total Depth (TD)
Total csg – SU(2) = TD
5 = Casing back pull
6 = Sampler drive distance
7 = Total depth of driven sample = 4 + 6



PREPARED BY (Please print): D.E. SKOGLIE
TITLE: FTL DATE: 07.24.02
SIGNATURE: D. E. Skoglie

REVIEWED BY (Please print): MG GARDNER
TITLE: Manager DATE: 9-24-02
SIGNATURE: MG Gardner

DFSNW-WS-00__

Duratek Federal Services, Inc., Northwest Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 3

WELL I.D.: C3831	*WELL NUMBER*: N/A	*REPORT NUMBER*: 56	*DATE:* July 25, 2002 Thursday
CONTRACT NUMBER: 8248-55	*START CARD NO*: S00631	*RIG MODEL/NO*: SIMCO 5000 (Rig 106)	
PURPOSE: Daily safety meeting. Drive and obtain sample S02057-09 and S02057-10.	*REFERENCE*: DFSNW-DOW-006, Rev. 0	*LOCATION*: TX Tank Farm, 200 West	
REFERENCE MEASURING POINT: Steel Plate		*TOTAL SHIFT FOOTAGE*: 8.93 ft.	

CONSTRUCTION DESCRIPTION: N/A

CASING SIZE	SET-AT DEPTH	TYPE CASING	DRIVE POINT DIMENSION	START DEPTH	END DEPTH
7.0 " OD	NA	CS	Shoe, 7.5 " OD	61.05 ft	67.19 ft

BORING DEPTH:
START: 61.05 ft
END: 69.98 ft

START TIME: 0700
END TIME: 1630
CONTRACTOR TIME: 0.5
TOTAL TIME: 9

DOCUMENTED DOWNTIME

N/A

WEATHER CONDITIONS (373-2716 or 373-2710)

07:40 79F, wind NW 5 mph, barometric pressure 29.22, humidity 45%.

CASING SUMMARY

Bottom of 7 " OD casing (start of shift) = 61.05 ft.
Bottom of 7" OD casing (end of shift) = 67.19 ft
Casing (7 in OD) stick up (end of shift) = -0.22 ft.

SAMPLE SUMMARY

Sample: S02057-09 (#9) 67.19 – 68.54 (1.35 ft)
Sample: S02057-10 (#10) 68.43 – 69.98 (1.55 ft)

PERSONNEL:
OPERATOR: K. Olson
D Morris/D Curry
WA LICENSE #: 1217
OTHER: D Skoglie
K. Flower/K. Young
K. Johnson (PIC)
R. Sharp (Opr) R. Aneclet (HPT)

TIME FROM	TO	*DESCRIPTION OF OPERATIONS/REMARKS*
07:00	07:30	Conduct daily safety meeting. Discuss anticipated activities during daily.
07:30	08:20	No HPT on site. Crew enters TX Tank Farm and conducts maintenance and equipment inspection. Disassemble drive head and install next section of casing 4.99 (total 70.41) and Dp 5.0 (total 71.08).
08:20	09:03	HPT arrives on-site @ 08:35 hrs and conducts Work Deck Training with Mr. Flower. Start air monitors @ 08:55 hrs. Drive casing to a depth of 65.97 ft bgs (70.41 – (3.42 + 1.02). Blows are 19/24/31/40/18.
09:03	09:24	Add 2.0 ft casing (total 72.41) and Dp 2.0 ft (total 73.08). Set-up drive head and hammer. Drive casing to 67.19 ft bgs (72.41 – [3.42 + 1.8]). Blows are 35/8. Backpull casing .25 (66.94 ft bgs).
09:24	11:08	Secure hammer, disassemble drive head, and trip Dp from bore hole for sampling. WBGT is 79F @ 10:15 hrs.
11:08	12:30	Trip in sampler @ 11:31 hrs. Drive sampler to a depth of 68.54 ft. (1.35 ft) @ 11:33 hrs. Blows 3/3/2. Trip sampler out of bore-hole, in drum @ 12:15. No radiological readings on sampler/soil. Exit TX tank Farm for lunch. WBGT is 81F @ 12:00 hrs.
12:30	13:00	Lunch
13:00	13:47	Tag bore-hole 72.6 – (3.42 + .75) = 68.43 ft bgs. Trip in sampler. Sampler on bottom @ 13:47
13:48	13:49	Drive sample (S02057-10) 68.43 – 69.98 ft bgs (1.55 ft). Blows 2/3/1.
13:49	15:00	Water/rest break. (13:56 – 14:15). Trip sampler out of bore hole, in drum @ 15:00 hrs. WBGT is 82F @ 14:15.
15:00	15:34	Tripping Dp into bore hole.
15:34	16:30	Secure site. Exit TX Tank Farm.

REPORT BY: DE Skoglie
TITLE: Field Team Lead
SIGNATURE: D. E. Skoglie

REVIEWED BY: MG Gardner
TITLE: Project Manager DATE: 9-24-02
SIGNATURE:

Duratek Federal Services, Inc., Northwest Operations

SAMPLE FORM

FAR No. 56 Page 2 of 3

Sample No. 502057-09 Sample Tracking No. 8

Target Depth 67 to 68

(1) 3.42 top of rig floor above ground

(2) 5.22 casing stickup above ground

Csg Total (3) 72.41 - Stickup (2) 5.22 = TD (4) 67.19
Does not include drive head

Backpull stickup (2+5)

Sample depth (4) 67.19 to (4+6) 68.54

Blow Count

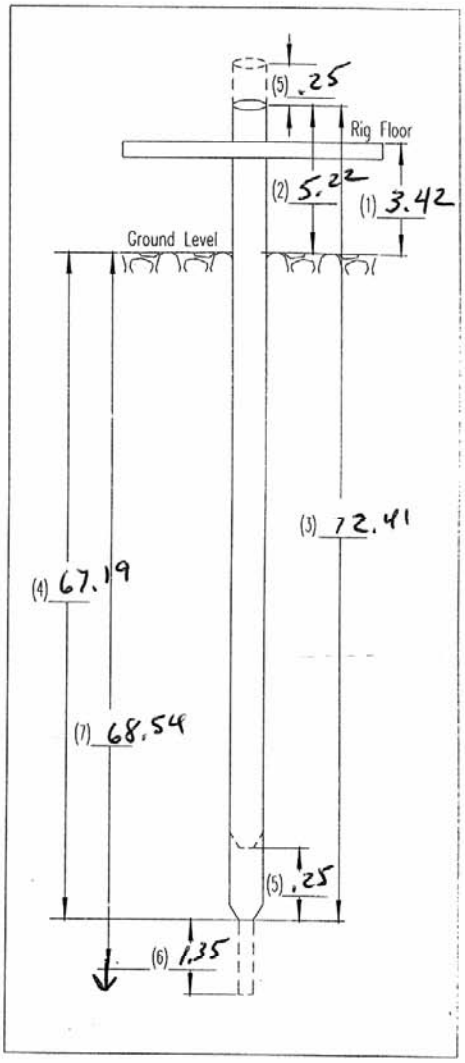
1.358 MLG 9-24-02

	.5 ft	1 ft	~~1.5~~ ft
Start Time 11:03	3	3	2
End Time 11:05			

Estimated Recovery: 100%

Remarks:
IN DRUM @ 12:15 hrs.

1 = Top of rig floor above ground
2 = Stickup of csg above ground 1 + measure from floor to top csg = SU
3 = Total csg length
4 = Depth of csg = Total Depth (TD)
Total csg – SU(2) = TD
5 = Casing back pull
6 = Sampler drive distance
7 = Total depth of driven sample = 4 + 6



PREPARED BY (Please print): D.E. SKOGLIE
TITLE: FTL DATE: 072502
SIGNATURE: D.E. Skoglie

REVIEWED BY (Please print): MG GARDNER
TITLE: Manager DATE:
SIGNATURE: MG Gardner 9-24-02

DFSNW-WS-00__

Duratek Federal Services

Duratek Federal Services, Inc., Northwest Operations

SAMPLE FORM

FAR No. 56 Page 3 of 3

Sample No. S02057-10 Sample Tracking No. 9

Target Depth 69 to 70

(1) 3.42 top of rig floor above ground

(2) 5.22 casing stickup above ground

Csg Total (3) 72.41 - Stickup (2) 5.22 = TD (4) 67.19

Does not include drive head

Backpull stickup (2+5) .25

Sample depth (4) 68.43 to (4+6) 69.98

Blow Count

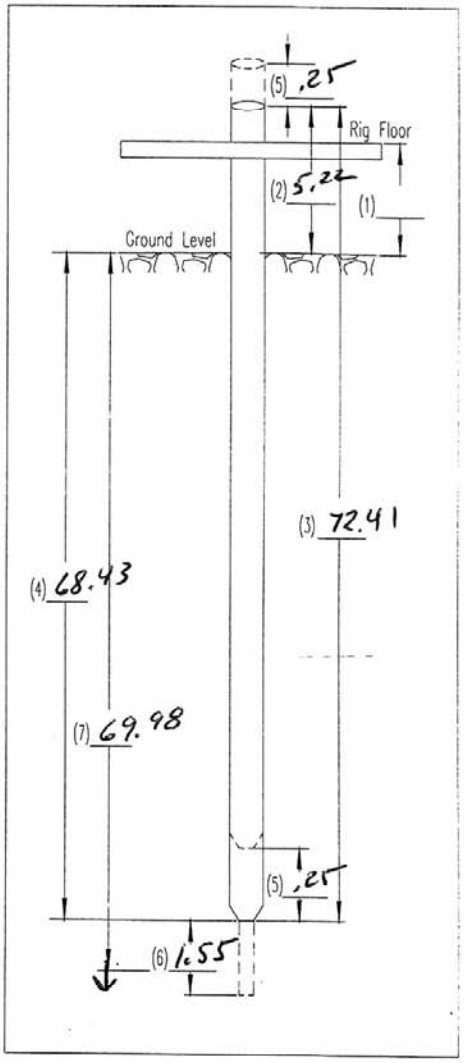
1.55 MBB 9-24-02

	.5 ft	1 ft	~~1.5~~ ft
Start Time 1340	2	3	1
End Time 13:41			

Estimated Recovery: 100%

Remarks: Sample boring tagged @ 68.43 for back to back sample.

1 = Top of rig floor above ground
2 = Stickup of csg above ground 1 + measure from floor to top csg = SU
3 = Total csg length
4 = Depth of csg = Total Depth (TD)
Total csg – SU(2) = TD
5 = Casing back pull
6 = Sampler drive distance
7 = Total depth of driven sample = 4 + 6



PREPARED BY (Please print): D.E. SKOGLIE
TITLE: FTL DATE: 072502
SIGNATURE: D.E. Skoglie

REVIEWED BY (Please print): MG GARDNER
TITLE: Manager DATE: 9-24-02
SIGNATURE: MGGardner

DFSNW-WS-00__

Duratek Federal Services, Inc., Northwest Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: C3831	*WELL NUMBER*: N/A	*REPORT NUMBER*: 57	*DATE*: July 26, 2002 Friday
CONTRACT NUMBER: 8248-55	*START CARD NO*: S00631	*RIG MODEL/NO*: SIMCO 5000 (Rig 106)	
PURPOSE: Daily safety meeting. Rig repair. Preparing for grave yard shift.	*REFERENCE*: DFSNW-DOW-006, Rev. 0	*LOCATION*: TX Tank Farm, 200 West	
REFERENCE MEASURING POINT: Steel Plate		*TOTAL SHIFT FOOTAGE*: 0.0 ft.	

CONSTRUCTION DESCRIPTION: N/A

CASING SIZE	SET-AT DEPTH	TYPE CASING	DRIVE POINT DIMENSION	START DEPTH	END DEPTH
7.0 " OD	NA	CS	Shoe, 7.5 " OD	67.19 ft	67.19 ft

BORING DEPTH:
START: 69.98 ft
END: 69.98 ft

START TIME: 0700
END TIME: 1530
CONTRACTOR TIME: 0.5
TOTAL TIME: 8

DOCUMENTED DOWNTIME

4.5 hrs Dodge coupling failure.

WEATHER CONDITIONS (373-2716 or 373-2710)

07:48 77F, wind W-NW 10-15 mph, barometric pressure 29.22, humidity 45%.

CASING SUMMARY

Bottom of 7 " OD casing (start of shift) = 67.19 ft.
Bottom of 7" OD casing (end of shift) = 67.19 ft.
Casing (7 in OD) stick up (end of shift) = N.D.

SAMPLE SUMMARY

N/A

PERSONNEL:
OPERATOR: K. Olson
D Morris/D Curry
WA LICENSE #: 1217
OTHER: S.H. Worley
K. Young
K. Johnson (PIC)
J. Clayton (HPT)

TIME FROM	TO	*DESCRIPTION OF OPERATIONS/REMARKS*
07:00	07:30	Arrive on-site review depths/lengths and plans for next drive with drilling crew. HPT expected at 8:00? 7:48 call weather station: 77F , 45% humid. wind w-nw 10 – 15 75 WBGT [Conduct daily safety meeting. Discuss anticipated activities during daily.]
8:15	08:30	HPT arrives on site. Safety POD: Expecting winds of 28 mph, wind at 14 mph now. Crew is to add 15' of casing and lower string to bottom and secure rig so that mast can be layed down and inspect the shaft, bearings and inspect hammer.
08:30	09:30	Crew enters TX Tank Farm and conducts maintenance and equipment inspection. Add 15' of casing to string so to secure. (Only 5' piece actually added.) Total length = (SIDE NOTE: Disussed getting 3 light plants on-site with K. Johnson, Klint says that he has made three requests to the person in charge of the teamsters to have two light plants moved from BX-Farm to our site. (one light plant is here now laying next to drillers trailer.) Klint has not received any confirmation or refusals from the Teamster person. As of 8:30 am 7/26/02.) Rory Steffler is brining two light stands from the pipeyard to be set up outside farm at the office trailers.
9:30	10:30	Crew out of Farm. Inspection reveals that the same bearing block is cracked in the very same place. Flowers arrives @ 9:40 discuss cause of the crack possible due to plat/mast where block bolts to mast may not be level or flat. Called Dobush he will have machine shop create a shim/plate that can be bolted in between mast and bearing block. This tear down operations requires a rigger. Rigger arrives 10:00, goes to ace in. Back at 10:30 discuss Fall Protection plan. Back inside the farm
10:30	12:00	Back in the farm to remove broken bearing. Out of farm for lunch 11:30 – 12:00 Part run 12:15.
12:15	12:45	Star Rentals delivers first light plant. Mr. Steffler is on the road to pick up second one.
12:45	2:10	All parts arrived. Rigger arrives, and back in the farm to put the rig back together!
2:10	3:30	Repairs complete stand mast up checked chains. Leave the farm. Second Star Rental light plant arrives.

REPORT BY: S.H. Worley
TITLE: Field Team Lead
SIGNATURE: DE Skoglie for

REVIEWED BY: MG Gardner
TITLE: Project Manager DATE: 9-24-02
SIGNATURE: MGGardner

Duratek Federal Services, Inc., Northwest Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 3

WELL I.D.: C3831	*WELL NUMBER*: N/A	*REPORT NUMBER*: 58	*DATE*: July 29, 2002 Monday
CONTRACT NUMBER: 8248-55	*START CARD NO*: S00631	*RIG MODEL/NO*: SIMCO 5000 (Rig 106)	
PURPOSE: Daily safety meeting. Drive and obtain sample S02057-11 and S02057-12.	*REFERENCE*: DFSNW-DOW-006, Rev. 0	*LOCATION*: TX Tank Farm, 200 West	
REFERENCE MEASURING POINT: Steel Plate	*TOTAL SHIFT FOOTAGE*: 8.0 ft.		

CONSTRUCTION DESCRIPTION: N/A

CASING SIZE	SET-AT DEPTH	TYPE CASING	DRIVE POINT DIMENSION	START DEPTH	END DEPTH
7.0 " OD	NA	CS	Shoe, 7.5 " OD	67.19 ft	76.73 ft

BORING DEPTH: START: 69.98 ft
END: 77.98 ft

START TIME: 23:50
END TIME: 08:00
CONTRACTOR TIME: 0.5
TOTAL TIME: 8.5

DOCUMENTED DOWNTIME

N/A

WEATHER CONDITIONS (373-2716 or 373-2710)

N/A

CASING SUMMARY

Bottom of 7 " OD casing (start of shift) = 67.19 ft.
Bottom of 7" OD casing (end of shift) = 76.73 ft
Casing (7 in OD) stick up (end of shift) = 1.5 ft.

SAMPLE SUMMARY

Sample: S02057-11 (#10) 74.05 – 75.3 (1.25 ft)
Sample: S02057-12 (#11) 76.73 – 77.98 (1.25 ft)

PERSONNEL:

OPERATOR: K. Olson
D Morris/D Curry
WA LICENSE #: 1217
OTHER: D Skoglie
K. Flower/K. Young
K. Johnson (PIC) H. Sydnor (PM)
R. Sharp (Opr) K. Hartelius (HPT)

TIME FROM	TO	*DESCRIPTION OF OPERATIONS/REMARKS*
11:30	12:10	Conduct daily safety meeting. Discuss anticipated activities and night operations during daily safety meeting. Set-up 3 light plants to support night work. Mr. Swessy conducted light monitoring and determined adequate light.
12:10		Add casing 4.99 ft (total 75.4 ft) and Dp 5.0 (total 76.08 ft). Set-up drive head and hammer. Health physics back with instruments. Air monitors initiated (12:45 hrs.)
12:52	13:05	Drive casing to a depth of 71.06 ft bgs (75.4 – [3.42 + 0.92]). Blows 2 dry/14/15/14/20. Secure hammer and disassemble drive head.
13:05		Add casing 2.99 ft (total 78.39 ft) and Dp 3.0 (total 79.08 ft). Set-up drive head and hammer. Drive casing to a depth of 74.05 ft bgs (78.39 –[3.42 + 0.93]). Blows 34/39/40.
		Secure hammer and disassemble drive head. Back-pull casing .25 ft.
		Trip Dp out of boring. Run a sampler (S02057-11) to bottom and drive a sample. Blows 2/2/2. Trip sampler out of bore-hole. Sample in drum @ 05:30. Lunch 03:40 – 04:10 hrs.
04:10	04:55	Enter TX Tank Farm. Trip Dp in bore hole 04:43 hrs. Starting to get light @ 04:29 hrs. Add casing 2.99 (total 81.38 ft) and Dp 3.0 ft (total 82.08 ft). Set-up drive head and hammer.
04:55	06:25	Drive casing S.U. 1.23 ft. Blows 26/33/34. Secure hammer and drive head. Back pull casing 0.25 ft. Trip Dp out of bore hole @ 05:55. Trip in with sampler.
06:25		Drive sample S02057-12. Drive 1.25 ft. (76.73 – 77.98 ft). Blows 2/3/2. Secure hammer and disassemble drive head. Trip sampler out of borehole, in drum @ 07:10 hrs. No radiological contamination noted. Load samples and drums in sample van. Samples will be dropped off.
	07:45	Evaluate generator/light plant and hammer oil leak. Also, a diesel fuel leak occurred on a light plant
07:45	08:00	Secure site. Exit TX Tank Farm.
		Note 1: Mr. Swessy conducted light survey due to working at night (we have adequate light).

REPORT BY: DE Skoglie
TITLE: Field Team Lead
SIGNATURE: D. E. Skoglie

REVIEWED BY: MG Gardner
TITLE: Project Manager DATE: 9-24-02
SIGNATURE: MG Gardner

Duratek Federal Services, Inc., Northwest Operations

SAMPLE FORM

FAR No. 58 Page 2 of 3

Sample No. S02057-11 Sample Tracking No. 10

Target Depth 74 to 75

(1) 3.42 top of rig floor above ground

(2) 4.34 casing stickup above ground

Csg Total (3) 78.39 - Stickup (2) 4.34 = TD (4) 74.05

Does not include drive head

Backpull stickup (2+5) .25

Sample depth (4) 74.05 to (4+6) 75.03

Blow Count

1.25 pbb a 2402

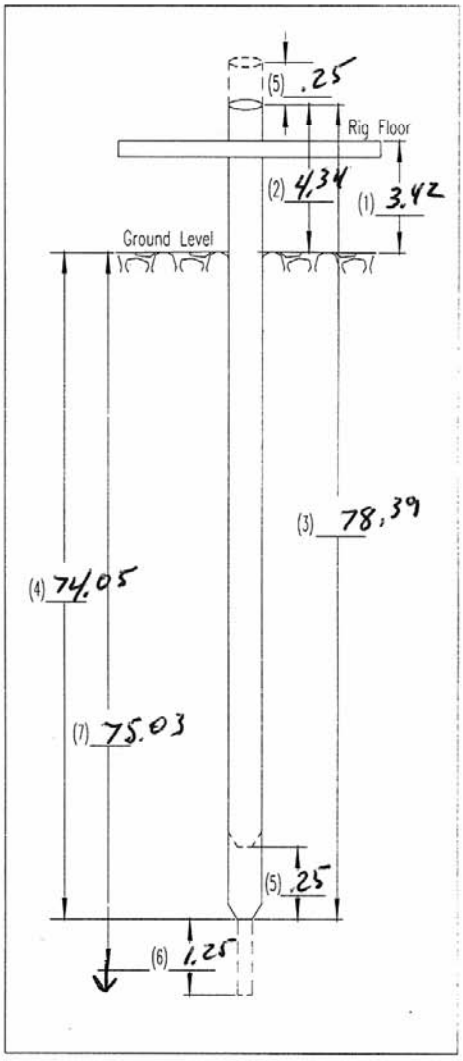
	.5 ft	1 ft	~~1.5~~ ft
Start Time 0250	2	3	2
End Time 0251			

Estimated Recovery: 100%

Remarks:

SAMPLE IN DRUM @ 0335 hrs.

1 = Top of rig floor above ground
2 = Stickup of csg above ground 1 + measure from floor to top csg = SU
3 = Total csg length
4 = Depth of csg = Total Depth (TD)
Total csg – SU(2) = TD
5 = Casing back pull
6 = Sampler drive distance
7 = Total depth of driven sample = 4 + 6



PREPARED BY (Please print): D.E. SKOGLIE
TITLE: FTL DATE: 072902
SIGNATURE: D.E. Skoglie

REVIEWED BY (Please print): MG GARDNER
TITLE: Manager DATE:
SIGNATURE: MG Gardner 9-24-02

DFSNW-WS-00__

Duratek Federal Services, Inc., Northwest Operations

SAMPLE FORM

FAR No. 58 Page 3 of 3

Sample No. 502057-12 Sample Tracking No. 11a

Target Depth 77 to 78

(1) 3.42 top of rig floor above ground

(2) 4.65 casing stickup above ground

Csg Total (3) 81.38 - Stickup (2) 4.65 = TD (4) 76.73

Does not include drive head

Backpull stickup (2+5) .25

Sample depth (4) 76.73 to (4+6) 77.98

Blow Count

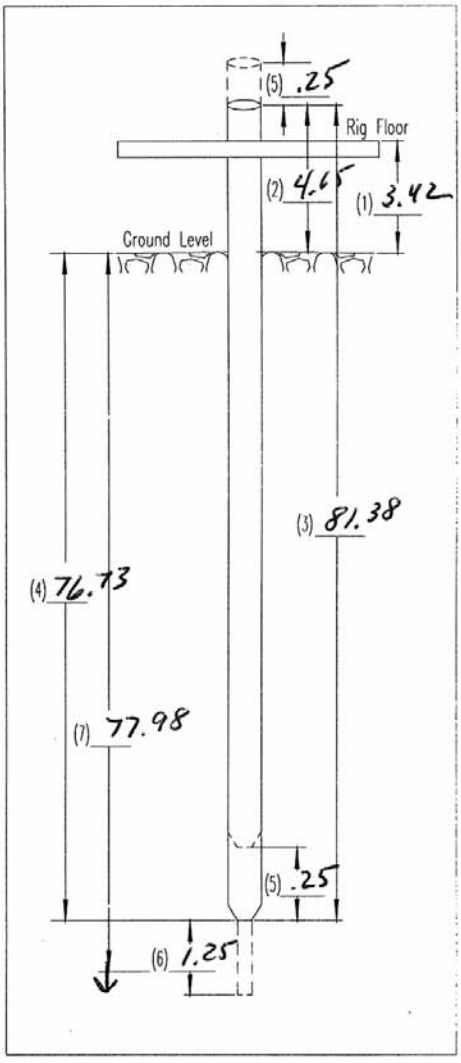
1.25 MBG 9-24-02

	.5 ft	1 ft	~~1.5~~ ft
Start Time 0631	2	3	2
End Time 0632			

Estimated Recovery: 100%

Remarks:
SAMPLE IN DRUM @ 0710 hrs.

1 = Top of rig floor above ground
2 = Stickup of csg above ground 1 + measure from floor to top csg = SU
3 = Total csg length
4 = Depth of csg = Total Depth (TD)
Total csg – SU(2) = TD
5 = Casing back pull
6 = Sampler drive distance
7 = Total depth of driven sample = 4 + 6



PREPARED BY (Please print): D.E. STOGLIE
TITLE: FTL DATE: 072902
SIGNATURE: D. E. Stoglie

REVIEWED BY (Please print): MG GARDNER
TITLE: Manager DATE: 9-24-02
SIGNATURE: MG Gardner

DFSNW-WS-00__

Duratek Federal Services, Inc., Northwest Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 2

WELL I.D.: C3831	*WELL NUMBER*: N/A	*REPORT NUMBER*: 59	*DATE:* July 30, 2002 Tuesday
CONTRACT NUMBER: 8248-55	*START CARD NO*: S00631	*RIG MODEL/NO*: SIMCO 5000 (Rig 106)	
PURPOSE: Daily safety meeting. Drive and obtain sample S02057-11 and S02057-12.	*REFERENCE*: DFSNW-DOW-006, Rev. 0	*LOCATION*: TX Tank Farm, 200 West	
REFERENCE MEASURING POINT: Steel Plate	*TOTAL SHIFT FOOTAGE*: 7.07 ft.		

CONSTRUCTION DESCRIPTION: N/A

CASING SIZE	SET-AT DEPTH	TYPE CASING	DRIVE POINT DIMENSION	START DEPTH	END DEPTH
7.0 " OD	NA	CS	Shoe, 7.5 " OD	76.73 ft	85.05 ft

BORING DEPTH: START: 77.98 ft
END: 85.05 ft

START TIME: 11:30 pm
END TIME: 08:00
CONTRACTOR TIME: 0.5
TOTAL TIME: 8.5

DOCUMENTED DOWNTIME

N/A

WEATHER CONDITIONS (373-2716 or 373-2710)

Wind NW 14 (later 8 to 18 gusts to 20 mph), 70F temperature, humidity 54%, barometric pressure 29.20

CASING SUMMARY

Bottom of 7 " OD casing (start of shift) = 76.73 ft.
Bottom of 7" OD casing (end of shift) = 85.05 ft
Casing (7 in OD) stick up (end of shift) = 1.5 ft.

SAMPLE SUMMARY

Sample: S02057-13 (#11b) 77.76 – 79.04 (1.28 ft)

PERSONNEL:
OPERATOR: K. Olson
D Morris/D Curry
WA LICENSE #: 1217
OTHER: D Skoglie
K. Flower/K. Young
K. Johnson (PIC) H. Snydor (PM)
R. Sharp (Opr) K. Hartelius (HPT)

TIME FROM	TO	*DESCRIPTION OF OPERATIONS/REMARKS*
11:30	12:30	Conduct daily safety meeting. Discuss anticipated activities and night operations during daily safety meeting. Set-up 1 light plant and 1 stand to support night work. Mr. Swessy conducted light monitoring and determined adequate light. Mr. Swessy also conducted noise monitoring on the new light plant, noise level 80 dBa. Change out saver sub (4.5 inch).
12:30	1:25	A DTB tag revealed a depth of 77.76 ft bgs. The sampler was ran to bottom @ 1:16 hrs. Set-up drive head and hammer. Drive the sampler (1:20-1:21) 1.28 ft. Blows 2/2/1. Secure hammer in the mast and disassemble the drive head.
1:25	1:49	Trip sampler out of the borehole.
1:49	4:28	Back-pulling casing. However, the casing slips will not grab. The wrenches were pulled apart. The slips were cleaned and the top plate and springs removed.
4:28	4:55	Lunch
4:55	6:12	Run Dp into boring. Operator hauls 7 inch casing to location. Add casing 4.99 (total 80.39) and Dp 5.0 (total 81.08). Set-up hammer @ 5:37. Drive casing (5 dry blows). Hammer hitting jacks. Driving was stopped. The lower casing slip plate is out of alignment. Aligned plate and completed driving. Blows 2/20/19/23/30. Secure hammer.
		Note 1: Light plant is leaking fuel at connection, remove from TX Tank Farm. Minimal fuel to ground due to felt. Place rental light plant @ drill unit.
6:12	6:38	Add casing 4.0 (total 89.37) and Dp 4.0 (90.08). Set-up hammer and drive head. Drive casing to 85.05 ft bgs. Blows 35/35/29/33/35. S.U. 0.9 ft. Disassemble drive head and secure hammer.
6:38	7:25	Trip Dp into boring.
7:25	08:00	Secure site.

REPORT BY: DE Skoglie
TITLE: Field Team Lead
SIGNATURE: D.E. Skoglie

REVIEWED BY: MG Gardner
TITLE: Project Manager DATE: 9-24-02
SIGNATURE: MGGardner

Duratek Federal Services

Duratek Federal Services, Inc., Northwest Operations

SAMPLE FORM

FAR No. 59 Page 2 of 2

Sample No. 502057-13 Sample Tracking No. 116

Target Depth 78 to 79

(1) 3.42 top of rig floor above ground

(2) 3.62 casing stickup above ground

Csg Total (3) 81.38 - Stickup (2) 3.62 = TD (4) 77.76

Does not include drive head

Backpull stickup (2+5) .25

Sample depth (4) 77.76 to (4+6) 79.04

Blow Count 1.28 MBG 9-24-02

	.5 ft	1 ft	~~1.5~~ ft
Start Time 0120	2	2	1
End Time 0121			

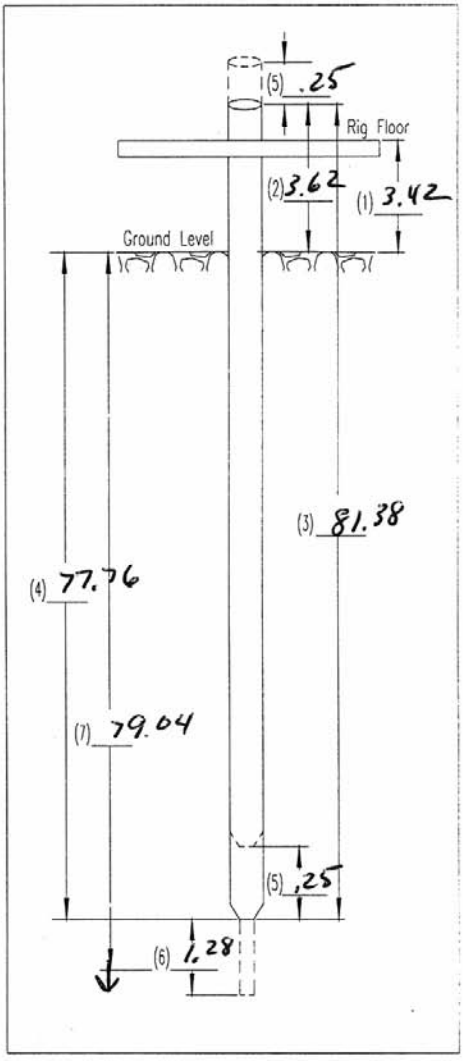
Estimated Recovery: 100%

Remarks:

SAMPLE IN DRUM @ 0150 hrs.

BACK TO BACK samples - TAG Depth 77.76 FT BGS.

1 = Top of rig floor above ground
2 = Stickup of csg above ground 1 + measure from floor to top csg = SU
3 = Total csg length
4 = Depth of csg = Total Depth (TD)
Total csg – SU(2) = TD
5 = Casing back pull
6 = Sampler drive distance
7 = Total depth of driven sample = 4 + 6



PREPARED BY (Please print): D. E. SKOGLIE
TITLE: FTL DATE: 073002
SIGNATURE: D. E. Skoglie

REVIEWED BY (Please print): MG GARDNER
TITLE: Manager DATE:
SIGNATURE: MGGardner 9-24-02

DFSNW-WS-00__

Duratek Federal Services, Inc., Northwest Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: C3831	*WELL NUMBER*: N/A	*REPORT NUMBER*: 60	*DATE*: July 31, 2002 Wednesday
CONTRACT NUMBER: 8248-55	*START CARD NO*: S00631	*RIG MODEL/NO*: SIMCO 5000 (Rig 106)	
PURPOSE: Daily and weekly safety meeting. Drive and obtain sample S02057-	*REFERENCE*: DFSNW-DOW-006, Rev. 0	*LOCATION*: TX Tank Farm, 200 West	
REFERENCE MEASURING POINT: Steel Plate		*TOTAL SHIFT FOOTAGE*: 0.0 ft.	

CONSTRUCTION DESCRIPTION: N/A

CASING SIZE	SET-AT DEPTH	TYPE CASING	DRIVE POINT DIMENSION	START DEPTH	END DEPTH
7.0 " OD	NA	CS	Shoe, 7.5 " OD	85.05 ft	85.05 ft

BORING DEPTH:
START: 85.05 ft
END: 85.05 ft

START TIME: 23:50
END TIME: 08:00
CONTRACTOR TIME: 0.5
TOTAL TIME: 8.5

DOCUMENTED DOWNTIME

8 hrs due to wind.

WEATHER CONDITIONS (373-2716 or 373-2710)

Wind W 21 (gusts to 30) , 66F temperature, humidity 41%, barometric pressure 29.24

CASING SUMMARY

Bottom of 7 " OD casing (start of shift) = 85.05 ft.
Bottom of 7" OD casing (end of shift) = 85.05 ft
Casing (7 in OD) stick up (end of shift) = 0.9 ft.

SAMPLE SUMMARY

N/A

PERSONNEL:
OPERATOR: K. Olson
D Morris/D Curry
WA LICENSE #: 1217
OTHER: D Skoglie J. Swessy
K. Flower/K. Young
K. Johnson (PIC)
R. Sharp (Opr) K. Hartieluis (HPT)

TIME FROM	TO	*DESCRIPTION OF OPERATIONS/REMARKS*
11:30	03:30	Conduct daily and weekly safety meetings. During the daily safety meeting crew discussed anticipated activities. The safety topic for the weekly is Group Discussion regarding grave-yard shift. An equipment inspection was completed. The 7 inch casing slips were inspected. A hydraulic hose was chnged.
03:30	04:00	Lunch
04:00	08:00	The wind has shut the job down all night.
		Note: The PIC and Morris are awaiting the fuel man.
		The site was secured.

REPORT BY: DE Skoglie
TITLE: Field Team Lead
SIGNATURE: D.E. Skoglie

REVIEWED BY: MG Gardner
TITLE: Project Manager DATE: 9-24-02
SIGNATURE:

Duratek Federal Services

Duratek Federal Services, Inc., Northwest Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 3

WELL I.D.: C3831	*WELL NUMBER*: N/A	*REPORT NUMBER*: 61	*DATE*: August 1, 2002 Thursday
CONTRACT NUMBER: 8248-55	*START CARD NO*: S00631	*RIG MODEL/NO*: SIMCO 5000 (Rig 106)	
PURPOSE: Daily safety meeting. Drive and obtain sample S02057-14 and S02057-15.	*REFERENCE*: DFSNW-DOW-006, Rev. 0	*LOCATION*: TX Tank Farm, 200 West	
REFERENCE MEASURING POINT: Steel Plate		*TOTAL SHIFT FOOTAGE*: 5.95 ft.	

CONSTRUCTION DESCRIPTION: N/A

CASING SIZE	SET-AT DEPTH	TYPE CASING	DRIVE POINT DIMENSION	START DEPTH	END DEPTH
7.0 " OD	NA	CS	Shoe, 7.5 " OD	85.05 ft	91.00 ft

BORING DEPTH:
START: 85.05 ft
END: 91.0 ft

START TIME: 11:30 pm
END TIME: 08:00
CONTRACTOR TIME: 0.5
TOTAL TIME: 8.5

DOCUMENTED DOWNTIME

N/A

WEATHER CONDITIONS (373-2716 or 373-2710)

Wind Calm , 64F temperature, humidity 41%, barometric pressure 29.24

CASING SUMMARY

Bottom of 7 " OD casing (start of shift) = 85.05 ft.
Bottom of 7" OD casing (end of shift) = 91.00 ft
Casing (7 in OD) stick up (end of shift) = 0.95 ft.

SAMPLE SUMMARY

Sample: SO2057-14 (#12) 85.05 - 86.30 (1.25 ft)
Sample: SO2057-15 (#13) 88.30 - 89.75 (1.45 ft)

PERSONNEL:

OPERATOR: K. Olson
D Morris/D Curry
WA LICENSE #: 1217
OTHER: K Reynolds J. Sweesy
K. Young
K. Johnson (PIC)
S. Snook (Opr) K. Hartelius (HPT)

TIME FROM	TO	*DESCRIPTION OF OPERATIONS/REMARKS*
11:30	11:45	Conduct daily safety meetings. During the daily safety meeting crew discussed anticipated activities.
11:45	12:15	Equipment inspection completed. Bleed hydraulic line and fuel light plants and generator.
12:15	12:46	Trip in hole for sample at 85.05-Sample SO 2057-14. Drive 1.25ft. 3/2/1 Blows
12:46	1:30	Trip out –sample in drum (appears slightly less than full) @ 1:30.
1:30	2:00	Trip in drill pipe
2:00	2:10	Pick up 3.00 casing, 3.00 drill pipe, csg 89.37 + 3.00 = 92.37 total casing, dp 90.08 + 3.00= 93.08 Prep to drive
2:10	2:15	Drive casing, 9/27/33, .65 stick-up, 92.37-3.42-.65= 88.30 total depth. Break 02:15 – 02:25
2:25	3:10	Back pull casing .25 to 88.05. Trip pipe for sample
3:10	3:25	Start in hole for sample SO 2057-15
3:25	4:00	Lunch
4:00	4:40	Complete trip in to sample. Drive sample 88.30-89.75 2/2/2 blows. Sample in drum @ 5:20.
4:40	7:15	Remove 4.00 and 3.00 casing and dp, add 5.00 for total of 90.37 casing, dry fire hammer to advance. Pick up 5.00 casing for total of 95.37 with 5.00 drill pipe, advance casing Blow count 22/27) 0.95 stickup total depth 91 feet. Secure rig to fix O ring in mast servo.

REPORT BY: KD Reynolds
TITLE: Field Team Lead
SIGNATURE: D. E. Skoglie for

REVIEWED BY: MG Gardner
TITLE: Project Manager DATE: 9-24-02
SIGNATURE: MGardner

Duratek Federal Services, Inc., Northwest Operations

SAMPLE FORM

FAR No. 61 Page 2 of 3

Sample No. 502057.14 Sample Tracking No. 12

Target Depth 85 to 86

(1) 3.42 top of rig floor above ground

(2) 4.32 casing stickup above ground

Csg Total (3) 89.37 - Stickup (2) 4.32 = TD (4) 85.05

Does not include drive head

Backpull stickup (2+5) .25

Sample depth (4) 85.05 to (4+6) 86.3

Blow Count

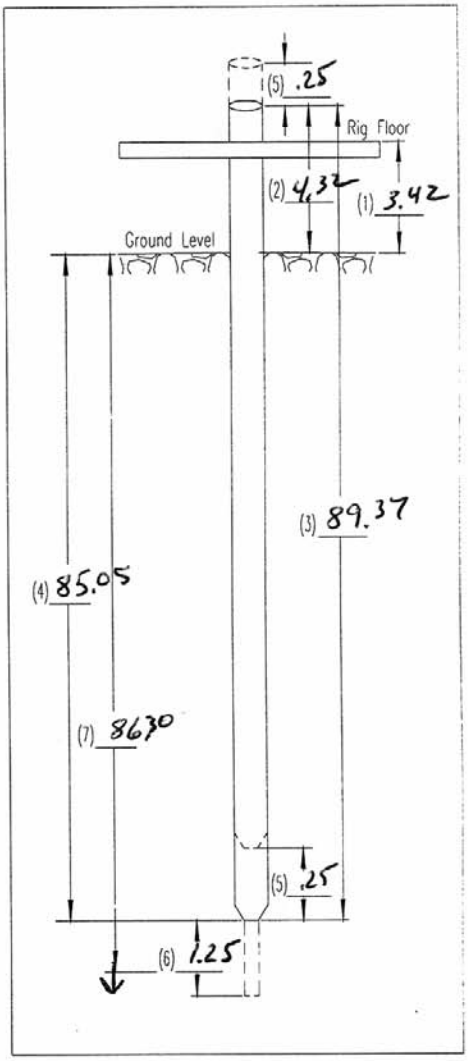
1.25 MB 9-24-02

	.5 ft	1 ft	~~1.5 ft~~
Start Time 1253	3	2	1
End Time 1254			

Estimated Recovery: 100%

Remarks:
SAMPLE IN DRUM @ 0130 hrs.

1 = Top of rig floor above ground
2 = Stickup of csg above ground 1 + measure from floor to top csg = SU
3 = Total csg length
4 = Depth of csg = Total Depth (TD)
Total csg – SU(2) = TD
5 = Casing back pull
6 = Sampler drive distance
7 = Total depth of driven sample = 4 + 6



PREPARED BY (Please print): D.E. STEGLE
TITLE: FTL DATE: 080102
SIGNATURE: D. E. Steglie

REVIEWED BY (Please print): MG GARDNER
TITLE: Manager DATE:
SIGNATURE: MG Gardner 9-24-02

DFSNW-WS-00__

Duratek Federal Services, Inc., Northwest Operations

SAMPLE FORM

FAR No. 61 Page 3 of 3

Sample No. S02057-15 Sample Tracking No. 13

Target Depth 88 to 89

(1) 3.42 top of rig floor above ground

(2) 4.07 casing stickup above ground

Csg Total (3) 92.37 - Stickup (2) 4.07 = TD (4) 88.30

Does not include drive head

Backpull stickup (2+5)

Sample depth (4) 88.30 to (4+6) 89.75

Blow Count

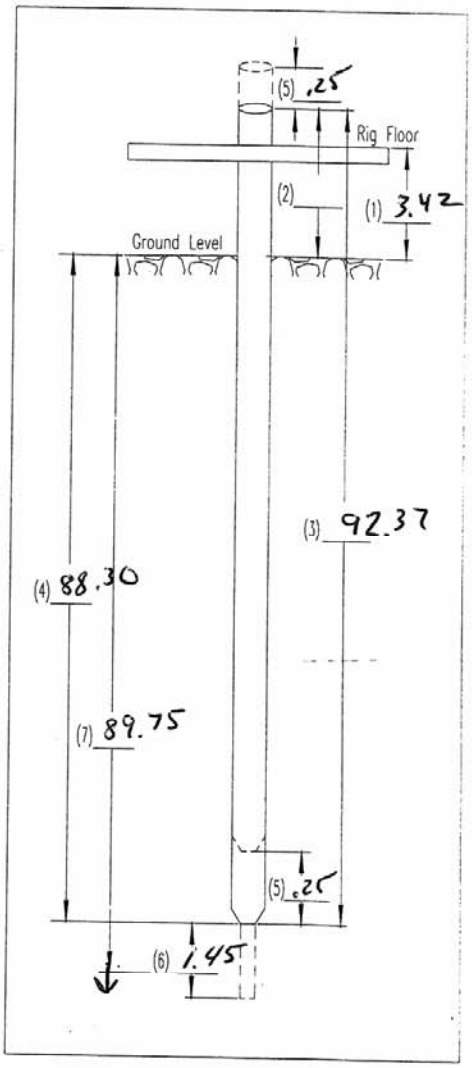
1.45 MLB 9-24-02

	.5 ft	1 ft	~~1.5 ft~~
Start Time 4:44	2	2	2
End Time 4:45			

Estimated Recovery: 100%

Remarks:
SAMPLE IN DRUM @ 05:20 hrs.

1 = Top of rig floor above ground
2 = Stickup of csg above ground 1 + measure from floor to top csg = SU
3 = Total csg length
4 = Depth of csg = Total Depth (TD)
Total csg – SU(2) = TD
5 = Casing back pull
6 = Sampler drive distance
7 = Total depth of driven sample = 4 + 6



PREPARED BY (Please print): D.E. SKOGLIE
TITLE: FTL DATE: 080102
SIGNATURE: D. E. Skoglie

REVIEWED BY (Please print): MB GARDNER
TITLE: Manager DATE: 9-24-02
SIGNATURE: MB Gardner

DFSNW-WS-00__

Duratek Federal Services, Inc., Northwest Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: C3831	*WELL NUMBER*: N/A	*REPORT NUMBER*: 62	*DATE:* August 2, 2002 Friday
CONTRACT NUMBER: 8248-55	*START CARD NO*: S00631	*RIG MODEL/NO*: SIMCO 5000 (Rig 106)	
PURPOSE: Daily safety meeting. No drilling due to wind again.	*REFERENCE*: DFSNW-DOW-006, Rev. 0	*LOCATION*: TX Tank Farm, 200 West	

REFERENCE MEASURING POINT: Steel Plate

TOTAL SHIFT FOOTAGE: 0.0 ft.

CONSTRUCTION DESCRIPTION: N/A

CASING SIZE	SET-AT DEPTH	TYPE CASING	DRIVE POINT DIMENSION	START DEPTH	END DEPTH
7.0 " OD	NA	CS	Shoe, 7.5 " OD	91.0 ft	91.0 ft

BORING DEPTH:
START: 91.0 ft
END: 91.0 ft

START TIME: 11:30 pm
END TIME: 08:00
CONTRACTOR TIME: 0.5
TOTAL TIME: 8.5

DOCUMENTED DOWNTIME
Wind – 8 hrs.

WEATHER CONDITIONS (373-2716 or 373-2710)

Wind NW 11to22mph , 69F temperature, humidity 42%, barometric pressure 29.13

CASING SUMMARY

Bottom of 7 " OD casing (start of shift) = 91.0 ft.
Bottom of 7" OD casing (end of shift) = 91.0 ft
Casing (7 in OD) stick up (end of shift) = .95 ft.

SAMPLE SUMMARY

N/A

PERSONNEL:
OPERATOR: K. Olson
D Morris/D Curry
WA LICENSE #: 1217
OTHER: DE Gostovich J. Sweesy
K. Young
K. Johnson (PIC)
S. Snook (Opr) K. Harelius (HPT)

TIME FROM	TO	*DESCRIPTION OF OPERATIONS/REMARKS*
11:30	11:45	Conduct daily safety meetings. During the daily safety meeting crew discussed anticipated activities.
11:45	12:30	Was unable to inter the farm due to the wind.
12:30	01:45	Crew was allowed to enter the farm for rig repairs. Crew made repairs and exited the farm.
01:45	01:30	The wind is blowing study at 18to 20 with gusts to 22 to 25mph.
01:30	05:30	The wind is still keeping activities in the farm shut down.
05:30	08:00	All of the support left, so if the wind does die down we can't get started. The wind has slaked off some., however, by the time every thing was set up to go to work there wouldn't be enough time to get anything done. Everybody has went home.

REPORT BY: DE Gostovich
TITLE: Field Team Lead
SIGNATURE: D.E. Skoglie for

REVIEWED BY: MG Gardner
TITLE: Project Manager DATE: 9-24-02
SIGNATURE: MG Gardner

Duratek Federal Services, Inc., Northwest Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 3

WELL I.D.: C3831	*WELL NUMBER*: N/A	*REPORT NUMBER*: 63	*DATE:* August 05, 2002 Monday
CONTRACT NUMBER: 8248-55	*START CARD NO*: S00631	*RIG MODEL/NO*: SIMCO 5000 (Rig 106)	
PURPOSE: Daily safety meeting. Drive and obtain sample S02057-16 and S02057-17.	*REFERENCE*: DFSNW-DOW-006, Rev. 0	*LOCATION*: TX Tank Farm, 200 West	
REFERENCE MEASURING POINT: Steel Plate	*TOTAL SHIFT FOOTAGE*: 7.38 ft.		

CONSTRUCTION DESCRIPTION: N/A

CASING SIZE	SET-AT DEPTH	TYPE CASING	DRIVE POINT DIMENSION	START DEPTH	END DEPTH
7.0 " OD	NA	CS	Shoe, 7.5 " OD	91.0 ft	97.11 ft

BORING DEPTH: START: 91.0 ft
END: 98.38 ft

START TIME: 11:30 pm
END TIME: 08:00
CONTRACTOR TIME: 0.5
TOTAL TIME: 8.5

DOCUMENTED DOWNTIME

N/A

WEATHER CONDITIONS (373-2716 or 373-2710)

Wind 5 - 15 , 53F temperature, humidity 61%, barometric pressure 29.31 @ 06:23 hrs.

CASING SUMMARY

Bottom of 7 " OD casing (start of shift) = 91.0 ft.
Bottom of 7" OD casing (end of shift) = 97.11 ft
Casing (7 in OD) stick up (end of shift) = N/A

SAMPLE SUMMARY

Sample: SO2057-16 (#14) 93.05 – 94.3 (1.25 ft)
Sample: S02057-17 (#15) 97.11 – 98.38 (1.27 ft)

PERSONNEL:
OPERATOR: K. Olson
D Morris/D Curry
WA LICENSE #: 1217
OTHER: D. Skoglie/ K. Flower
K. Young
K. Johnson (PIC)
S. Snook (Opr) K. Hartelius (HPT)

TIME FROM	TO	*DESCRIPTION OF OPERATIONS/REMARKS*
11:30	11:50	Conduct daily safety meetings. During the daily safety meeting crew discussed anticipated activities. Conduct equipment inspection, no deficiencies noted.
11:50	12:11	Add casing 2 ft (total 97.32 ft) and Dp 2 ft (total 98.08 ft. Set up hammer and drive head.
12:11	1:04	Drive casing (12:11 – 12:12) to a depth of 93.05 ft (97.37 – [3.42 + 0.9]). Blows 25/29. Secure hammer and disassemble drive head. Back-pull casing 0.25 ft. Trip Dp out of borehole.
1:04	1:38	Run sampler into borehole. Drive sample number S02057-16 (93.05 – 94.3) 1.25 ft. 1:31 – 1:32 hrs.. Blows 3/3/1. Secure hammer and disassemble drive head.
1:38	3:30	Trip sampler out of borehole. Break 2:17 – 2:32. Sample in drum @ 2:05. Trip Dp into boring (3:09 hrs.) Add casing 4.0 ft (total 101.37 ft.) and Dp 4.0 (102.08 ft). Set-up drive head/hammer. Tighten hydraulic lines.
3:30	4:35	Drive casing to a depth of 97.11ft bgs. S.U. 0.84 ft. Blows 2/13/38/32/34. Secure hammer and disassemble drive head. Back-pull casing 0.25 ft. (3:48 hrs.). Trip Dp from bore-hole.
4:35	5:10	Lunch
5:10	5:47	Run sampler in bore-hole. Set-up drive head/hammer.
5:47	5:48	Drive sample (97.11 – 98.38) Blows 3/3//1. Secure hammer, disconnect drive head.
5:48	06:30	Trip sampler out of boring. Sample in drum @ 06:30 hrs.
06:30	07:10	Back-pull casing (4 ft and 2 ft).
07:10	08:00	Secure site .
		Note 1: No radiological contamination noted on samples.

REPORT BY: DE Skoglie
TITLE: Field Team Lead
SIGNATURE: D.E. Skoglie

REVIEWED BY: MG Gardner
TITLE: Project Manager DATE: 9-24-02
SIGNATURE: M G Gardner

Duratek Federal Services, Inc., Northwest Operations

SAMPLE FORM

FAR No. 63 Page 2 of 3

Sample No. S02057-16 Sample Tracking No. 14

Target Depth 93 to 94

(1) 3.42 top of rig floor above ground

(2) 4.32 casing stickup above ground

Csg Total (3) 97.37 - Stickup (2) = TD (4) 93.05

Does not include drive head

Backpull stickup (2+5) .25

Sample depth (4) 93.05 to (4+6) 94.3

Blow Count

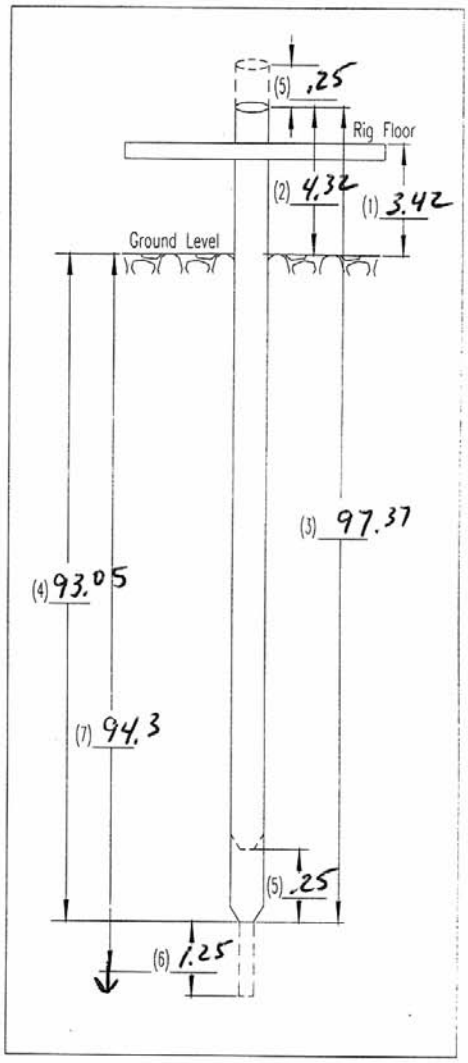
1.25 MBG 9-24-02

	.5 ft	1 ft	~~1.5~~ ft
Start Time 0105	3	3	1
End Time 0107			

Estimated Recovery: 100%

Remarks:
Sample in drum @ 02:05 hrs.

1 = Top of rig floor above ground
2 = Stickup of csg above ground 1 + measure from floor to top csg = SU
3 = Total csg length
4 = Depth of csg = Total Depth (TD)
Total csg – SU(2) = TD
5 = Casing back pull
6 = Sampler drive distance
7 = Total depth of driven sample = 4 + 6



PREPARED BY (Please print): D. E. SKOGLIE
TITLE: FTL DATE: 080502
SIGNATURE: D E Skoglie

REVIEWED BY (Please print): MB GARDNER
TITLE: Manager DATE: 9-24-02
SIGNATURE: MB Gardner

DFSNW-WS-00__

Duratek Federal Services, Inc., Northwest Operations

SAMPLE FORM

FAR No. 63 Page 3 of 3

Sample No. S02057-17 Sample Tracking No. 15

Target Depth 97 to 98

(1) 3.42 top of rig floor above ground

(2) 4.26 casing stickup above ground

Csg Total (3) 101.37 - Stickup (2) 4.26 = TD (4) 97.11

Does not include drive head

Backpull stickup (2+5) .25

Sample depth (4) 97.11 to (4+6) 98.38

Blow Count

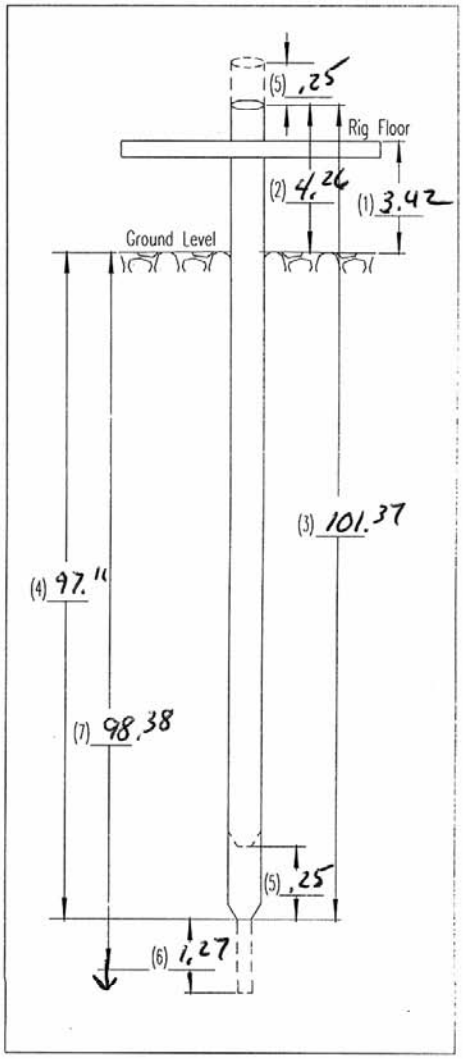
1.27 MG 9-24-02

	.5 ft	1 ft	~~1.5 ft~~
Start Time 0550	3	3	1
End Time 0552			

Estimated Recovery: 100%

Remarks:
SAMPLE IN DRUM @ 0630 hrs.

1 = Top of rig floor above ground
2 = Stickup of csg above ground 1 + measure from floor to top csg = SU
3 = Total csg length
4 = Depth of csg = Total Depth (TD)
Total csg – SU(2) = TD
5 = Casing back pull
6 = Sampler drive distance
7 = Total depth of driven sample = 4 + 6



PREPARED BY (Please print): D.E. SHOGLIE
TITLE: FTL DATE: 080502
SIGNATURE: D.E. Shoglie

REVIEWED BY (Please print): MG GARDNER
TITLE: Manager DATE: 9-24-02
SIGNATURE: MG Gardner

DFSNW-WS-00__

Duratek Federal Services, Inc., Northwest Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 3

WELL I.D.: C3831	*WELL NUMBER*: N/A	*REPORT NUMBER*: 64	*DATE*: August 06, 2002 Tuesday
CONTRACT NUMBER: 8248-55	*START CARD NO*: S00631	*RIG MODEL/NO*: SIMCO 5000 (Rig 106)	
PURPOSE: Daily safety meeting. Drive and obtain sample S02057- 18 and S02057-.19.	*REFERENCE*: DFSNW-DOW-006, Rev. 0	*LOCATION*: TX Tank Farm, 200 West	
REFERENCE MEASURING POINT: Steel Plate		*TOTAL SHIFT FOOTAGE*: 4.6 ft.	

CONSTRUCTION DESCRIPTION: N/A

CASING SIZE	SET-AT DEPTH	TYPE CASING	DRIVE POINT DIMENSION	START DEPTH	END DEPTH
7.0 " OD	NA	CS	Shoe, 7.5 " OD	97.11 ft	100.2ft

BORING DEPTH: START: 98.38 ft
END: 102.98 ft

START TIME: 11:30 pm
END TIME: 08:00
CONTRACTOR TIME: 0.5
TOTAL TIME: 8.5

DOCUMENTED DOWNTIME

Wind – 66 minutes (12:46 – 01:52)

WEATHER CONDITIONS (373-2716 or 373-2710)

Wind 10 mph , 60F temperature, humidity 45%, barometric pressure 29.23 @ 11:52 hrs.

CASING SUMMARY

Bottom of 7 " OD casing (start of shift) = 97.11 ft.
Bottom of 7" OD casing (end of shift) = 100.2 ft
Casing (7 in OD) stick up (end of shift) = 0.75

SAMPLE SUMMARY

Sample: SO2057- 18 (#16) 100.2 – 101.65 (1.45 ft)
Sample: S02057- 19 (#17) 101.63 – 102.98 (1.35 ft)

PERSONNEL:

OPERATOR: K. Olson
D Morris/D Curry
WA LICENSE #: 1217
OTHER: D. Skoglie/ K. Flower
K. Young
K. Johnson (PIC)
S. Snook (Opr) K. Hartelius (HPT)

TIME FROM	TO	*DESCRIPTION OF OPERATIONS/REMARKS*
11:30	12:05	Conduct daily safety meetings. During the daily safety meeting crew discussed anticipated activities. Conduct equipment inspection, no deficiencies noted.
12:05	12:45	Run Dp to bottom. Add 5.0 ft casing (total 100.37 ft) and Dp 5.01 ft (total 101.09 ft). Wind picked up to 16 to 26 mph with gusts (12:45 hrs). Wind will be checked periodically.
12:45	2:10	The wind dies down to 11 mph @ 01:45. The hammer is set-up on the casing.
2:10	2:12	Drive the casing (dry fire once) drive to 96.1 ft bgs (100.37 – [3.42 + 0.85]) 02:10 – 02:12 hrs.
2:12	2:20	Secure hammer and disassemble drive head. Add casing 4.0 (total 104.37) and Dp 4.0 (105.09).
2:20	2:25	Set up hammer (02:23). Drive casing to 100.2 ft bgs (104.37 – [3.42 + 0.75]). Stick up is 0.75 ft. Blows are 2/12/24/17/12.
2:25	3:15	Secure hammer. Disassemble drive head. Trip Dp from bore hole. Trip Dp from bore-hole.
3:15	3:42	Trip in sampler.
3:42	4:25	Lunch
4:25	5:15	Set-up hammer. Drive sample (04:35 – 04:37) 1.45 ft (100.2 – 101.65) Blows 4/4/3. Trip out of bore-hole, in drum @ 05:15 hrs.
5:15	6:52	Tag bore-hole @ 101.63 ft bgs. Trip in sampler. Set-up hammer and drive sampler 1.35 ft (101.63 – 102.98). Blows 3/3/2. Sample tripped out of bore-hole and in drum @ 06:30 hrs. Casing handling.
6:52	8:00	Conduct drill maintenance and fueling for next shift. Complete documentation.
		Note 1: No radiological contamination noted on samples.

REPORT BY: D.E. Skoglie
TITLE: Field Team Lead
SIGNATURE: D.E. Skoglie

REVIEWED BY: MG Gardner
TITLE: Project Manager DATE: 9-24-02
SIGNATURE:

Duratek Federal Services, Inc., Northwest Operations

SAMPLE FORM

FAR No. 64 Page 2 of 3

Sample No. S02057-18 Sample Tracking No. 16

Target Depth 100 to 101

(1) 3.42 top of rig floor above ground

(2) 4.17 casing stickup above ground

Csg Total (3) 104.37 - Stickup (2) 4.17 = TD (4)

Does not include drive head

Backpull stickup (2+5) .25

Sample depth (4) 100.2 to (4+6) 101.65

Blow Count

1.45 MB 9-24-02

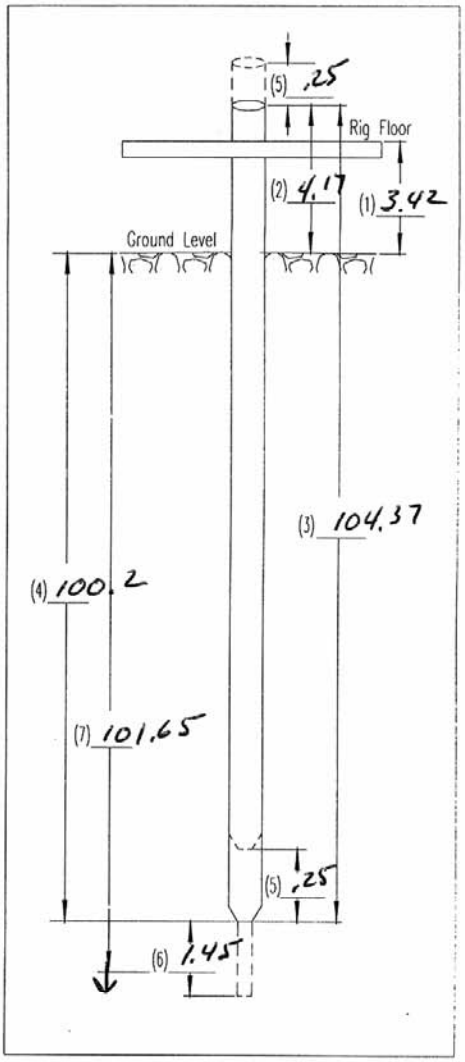
	.5 ft	1 ft	~~1.5 ft~~
Start Time 0425	4	4	3
End Time 0426			

Estimated Recovery: 100%

Remarks:

Sample In drum @ 0515 hrs.

1 = Top of rig floor above ground
2 = Stickup of csg above ground 1 + measure from floor to top csg = SU
3 = Total csg length
4 = Depth of csg = Total Depth (TD)
Total csg – SU(2) = TD
5 = Casing back pull
6 = Sampler drive distance
7 = Total depth of driven sample = 4 + 6



PREPARED BY (Please print): D.E. SKOGLIE
TITLE: FTL DATE: 080602
SIGNATURE: D. E. Skoglie

REVIEWED BY (Please print): MG GARDNER
TITLE: Manager DATE: 9-24-02
SIGNATURE: MGGardner

DFSNW-WS-00__

Duratek Federal Services, Inc., Northwest Operations

SAMPLE FORM

FAR No. 64 Page 3 of 3

Sample No. S02057- 19 Sample Tracking No. 17

Target Depth 102 to 103

(1) 3.42 top of rig floor above ground

(2) 4.17 casing stickup above ground

Csg Total (3) 104.37 - Stickup (2) 4.17 = TD (4)
Does not include drive head

Backpull stickup (2+5) .25

Sample depth (4) 101.63 to (4+6) 102.98

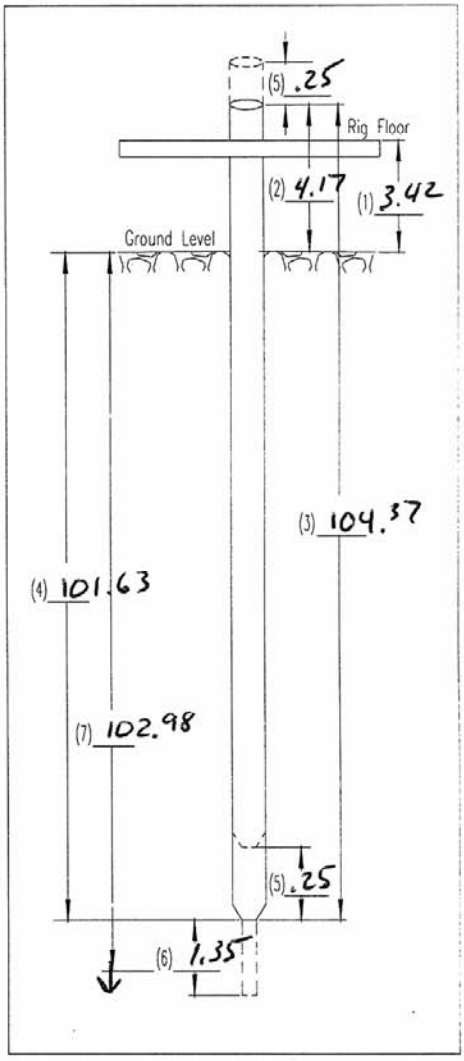
Blow Count

	.5 ft	1 ft	~~1.5 ft~~
Start Time 0600	3	3	2
End Time 0601			

Estimated Recovery: 100%

Remarks:
SAMPLE IN DRUM @ 0630 hrs.
BACK TO BACK SAMPLE - ~~TAG~~ 101.63 FT BGS.

1 = Top of rig floor above ground
2 = Stickup of csg above ground 1 + measure from floor to top csg = SU
3 = Total csg length
4 = Depth of csg = Total Depth (TD)
Total csg – SU(2) = TD
5 = Casing back pull
6 = Sampler drive distance
7 = Total depth of driven sample = 4 + 6



PREPARED BY (Please print): D. E. SKOGLIE
TITLE: FTL DATE: 080602
SIGNATURE: D. E. Skoglie

REVIEWED BY (Please print): MB GARDNER
TITLE: Manager DATE:
SIGNATURE: MB Gardner 9-24-02

DFSNW-WS-00__

Duratek Federal Services, Inc., Northwest Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 2

WELL I.D.: C3831	*WELL NUMBER*: N/A	*REPORT NUMBER*: 65	*DATE:* August 07, 2002 Wednesday
CONTRACT NUMBER: 8248-55	*START CARD NO*: S00631	*RIG MODEL/NO*: SIMCO 5000 (Rig 106)	
PURPOSE: Daily safety meeting. Drive and obtain sample S02057- 20. An equipment blank was also taken.	*REFERENCE*: DFSNW-DOW-006, Rev. 0	*LOCATION*: TX Tank Farm, 200 West	
REFERENCE MEASURING POINT: Steel Plate		*TOTAL SHIFT FOOTAGE*: 12.39 ft.	

CONSTRUCTION DESCRIPTION: N/A

CASING SIZE	SET-AT DEPTH	TYPE CASING	DRIVE POINT DIMENSION	START DEPTH	END DEPTH
7.0 " OD	NA	CS	Shoe, 7.5 " OD	100.2 ft	114.12 ft.

BORING DEPTH: START: 102.98 ft
END: 115.37 ft

START TIME: 11:30 pm
END TIME: 08:00
CONTRACTOR TIME: 0.5
TOTAL TIME: 8.5

DOCUMENTED DOWNTIME

N/A

WEATHER CONDITIONS (373-2716 or 373-2710)

Wind NW 7 - 13 mph , 62F temperature, humidity 48%, barometric pressure 29.41 @ 23:24 hrs.

CASING SUMMARY

Bottom of 7 " OD casing (start of shift) = 100.2 ft.
Bottom of 7" OD casing (end of shift) = 114.12 ft
Casing (7 in OD) stick up (end of shift) = 0.84

SAMPLE SUMMARY

Sample: SO2057- 20 (#18) 114.12 – 115.37 (1.25 ft)
Equipment blank (S02057-21) @ 2:00 hrs.

PERSONNEL:

OPERATOR: K. Olson
D Morris/D Curry
WA LICENSE #: 1217
OTHER: D. Skoglie/ K. Flower
K. Young
K. Johnson (PIC)
S. Snook (Opr) K. Hartelius (HPT)

TIME FROM	TO	*DESCRIPTION OF OPERATIONS/REMARKS*
11:30	11:55	Conduct daily safety meetings. During the daily safety meeting crew discussed anticipated activities. Equipment inspection was conducted at the conclusion of yesterday's shift, no deficiencies noted.
11:55	12:32	Trip Dp into bore-hole.
12:32	12:51	Add casing 5.0 (total 105.37 ft) and Dp 5.01 (106.09 ft). Set-up the hammer.
12:51	01:03	Drive casing (dry 1) to a depth of 101.2 ft bgs (12:51 – 12:54). Stick up 0.75 ft. Blows 7/13. Secure hammer and disassemble drive head.
1:03	12:51	Add casing 5.0 (total 110.39 ft) and Dp 5.0 (111.09 ft). Set-up the hammer.
12:51	1:22	Drive casing to a depth of110.37 – (3.42 + 0.73) = 106.22 ft bgs (01:13 – 01:15). Stick up 0.73 ft. Blows 23/19/20/15/21. Secure hammer and disassemble drive head.
1:22	1:35	Add casing 5.0 (total 115.37 ft) and Dp 5.01 (116.09 ft). Set-up the hammer.
1:35	1:48	Drive casing to a depth of 115.37 – (3.42 + 0.67) = 111.28 ft bgs (01:35 – 01:40). Stick up 0.75 ft. Blows 38/49/49/49. Secure hammer and disassemble drive head.
1:48	2:00	Add casing 3.0 (total 118.37 ft) and Dp 3.0 (119.09 ft). Set-up the hammer.
2:00	2:05	Drive casing to a depth of 118.37 – (3.42 + 0.83) = 114.12 ft bgs (02:00 – 02:05). Stick up 0..83 ft. Blows 53/53/84. Secure hammer and disassemble drive head. Last 2 inches the blow count is 13 per inch.
		Note 1: An equipment blank S02057-21 was taken @ 2:00 hrs.
2:05	2:25	Secure hammer and disassemble the drive head. Back-pull casing .25 inches. The sampler was staged.
2:25	3:50	Break (02:25 - 02:40). Trip Dp out of boring (03:07 hrs). Trip in with the sampler. Drive sampler from 114.12 to 115.37 ft bgs (03:44 – 03:46). Blows 13/10/10. Secure head and disassemble drive head.
3:50	5:15	Trip sampler out of bore-hole, in drum @ 04:30. Lunch 0435 – 05:15
		Note 2: No radiological contamination noted on samples.
5:15	8:00	Rebuild 4.5 inch slip and secure saver sub. Refusal is encountered, bore-hole C3831 is complete.

REPORT BY: D.E. Skoglie
TITLE: Field Team Lead
SIGNATURE: D.E. Skoglie

REVIEWED BY: MG Gardner
TITLE: Project Manager DATE: 9-24-02
SIGNATURE: MG Gardner

Duratek Federal Services

Duratek Federal Services, Inc., Northwest Operations

SAMPLE FORM

FAR No. 65 Page 2 of 2

Sample No. 502057-20 Sample Tracking No. 18

Target Depth 114 to 115

(1) 3.42 top of rig floor above ground

(2) 4.25 casing stickup above ground

Csg Total (3) 118.37 - Stickup (2) 4.25 = TD (4) 114.12

Does not include drive head

Backpull stickup (2+5) .25

Sample depth (4) 114.12 to (4+6) 115.37

Blow Count

MGG 9-24-02

1.25 ~~1.5 ft~~

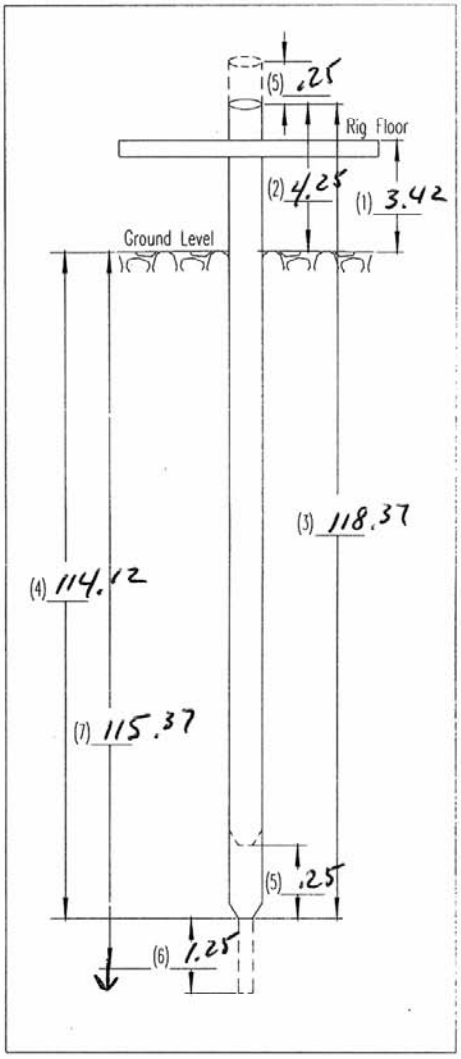
	.5 ft	1 ft	~~1.5 ft~~ 1.25
Start Time 0315	13	10	10
End Time 0316			

Estimated Recovery: 100%

Remarks:

SAMPLE IN DRUM @ 0430 HRS.
REFUSAL IS ENCOUNTERED.

1 = Top of rig floor above ground
2 = Stickup of csg above ground 1 + measure from floor to top csg = SU
3 = Total csg length
4 = Depth of csg = Total Depth (TD)
Total csg – SU(2) = TD
5 = Casing back pull
6 = Sampler drive distance
7 = Total depth of driven sample = 4 + 6



PREPARED BY (Please print): D.E. SICOGLIE
TITLE: FTL DATE: 080702
SIGNATURE: D.E. Sicoglie

REVIEWED BY (Please print): MG GARDNER
TITLE: Manager DATE: 9-24-02
SIGNATURE: MG Gardner

DFSNW-WS-00__

Duratek Federal Services, Inc., Northwest Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: C3831	*WELL NUMBER*: N/A	*REPORT NUMBER*: 66	*DATE*: August 08, 2002 Thursday
CONTRACT NUMBER: 8248-55	*START CARD NO*: S00631	*RIG MODEL/NO*: SIMCO 5000 (Rig 106)	
PURPOSE: Daily safety meeting. Geophysical logging. Moisture completed. Initiated Spectral.	*REFERENCE*: DFSNW-DOW-006, Rev. 0	*LOCATION*: TX Tank Farm, 200 West	
REFERENCE MEASURING POINT: Steel Plate		*TOTAL SHIFT FOOTAGE*: 0.0 ft.	

CONSTRUCTION DESCRIPTION: N/A

CASING SIZE	SET-AT DEPTH	TYPE CASING	DRIVE POINT DIMENSION	START DEPTH	END DEPTH
7.0 " OD	NA	CS	Shoe, 7.5 " OD	114.12 ft	114.12 ft.

BORING DEPTH: START: 115.37 ft
END: 115.37 ft

START TIME: 11:30
END TIME: 08:00
CONTRACTOR TIME: 0.5
TOTAL TIME: 8.5

DOCUMENTED DOWNTIME

N/A

WEATHER CONDITIONS (373-2716 or 373-2710)

N/A

CASING SUMMARY

Bottom of 7 " OD casing (start of shift) = 114.12 ft.
Bottom of 7" OD casing (end of shift) = 114.12 ft
Casing (7 in OD) stick up (end of shift) = 0.84

SAMPLE SUMMARY

N/A

PERSONNEL:

OPERATOR: K. Olson
D Morris/D Curry
WA LICENSE #: 1217
OTHER: D. Skoglie/J. Meisner
K. Young
K. Johnson (PIC)
S. Snook (Opr) K. Hartelius (HPT)

TIME FROM	TO	*DESCRIPTION OF OPERATIONS/REMARKS*
11:30	1:45	Conduct daily safety meetings. During the daily safety meeting crew discussed anticipated activities. The HPT has aced Mr. Meisner the day before. Mr. Meiser signs the RWP and drives the Geophysical logging truck to TX Tank Farm. The logging truck is set-up and instrumentation calibrated.
1:45	8:00	Conduct geophysical logging. Moisture logging is complete. Spectral logging completed 14 ft.
		BSE removed a leaking hydraulic ram and will repair. Also, two hydraulic lines on the manipulator arm will be replaced due to wear. A 4.5 inch slip was rebuilt (insert fell out). & inch casing was hauled to the TX Tank Farm.
		TX Tank Farm is secured.

REPORT BY: D.E. Skoglie
TITLE: Field Team Lead
SIGNATURE: D. E. Skoglie

REVIEWED BY: MG Gardner
TITLE: Project Manager DATE: 9-24-02
SIGNATURE: MGardner

Duratek Federal Services

Duratek Federal Services, Inc., Northwest Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: C3831	*WELL NUMBER*: N/A	*REPORT NUMBER*: 67	*DATE*: August 09, 2002 Friday
CONTRACT NUMBER: 8248-55	*START CARD NO*: S00631	*RIG MODEL/NO*: SIMCO 5000 (Rig 106)	
PURPOSE: Daily safety meeting. Geophysical logging. Continued running Spectral.	*REFERENCE*: DFSNW-DOW-006, Rev. 0	*LOCATION*: TX Tank Farm, 200 West	
REFERENCE MEASURING POINT: Steel Plate	*TOTAL SHIFT FOOTAGE*: 0.0 ft.		

CONSTRUCTION DESCRIPTION: N/A

CASING SIZE	SET-AT DEPTH	TYPE CASING	DRIVE POINT DIMENSION	START DEPTH	END DEPTH
7.0 " OD	NA	CS	Shoe, 7.5 " OD	114.12 ft	114.12 ft.

BORING DEPTH: START: 115.37 ft
END: 115.37 ft

START TIME: 11:30
END TIME: 08:00
CONTRACTOR TIME: 0.5
TOTAL TIME: 8.5

DOCUMENTED DOWNTIME

N/A

WEATHER CONDITIONS (373-2716 or 373-2710)

N/A

CASING SUMMARY

Bottom of 7 " OD casing (start of shift) = 114.12 ft.
Bottom of 7" OD casing (end of shift) = 114.12 ft
Casing (7 in OD) stick up (end of shift) = 0.84

SAMPLE SUMMARY

N/A

PERSONNEL:
OPERATOR: K. Olson
D Morris/D Curry
WA LICENSE #: 1217
OTHER: D. Skoglie/J. Meisner
K. Young
K. Johnson (PIC)
S. Snook (Opr) K. Harteilius (HPT)

TIME FROM	TO	*DESCRIPTION OF OPERATIONS/REMARKS*
11:30	11:55	Conduct daily and weekly safety meetings. During the daily safety meeting crew discussed anticipated activities. The weekly safety meeting discussed OSHA 29 CFR 1926 (cranes and derricks).
11:55	08:00	The logging truck is set-up and instrumentation calibrated.
		Conduct geophysical logging. Spectral logging completed to 80 ft.
		BSE : The leaking hydraulic ram's repair will be completed 08/09/02 and picked up. The two hydraulic lines on the manipulator arm are replaced. A casing/pipe inventory was completed. Additional sections of casing were hauled from the Duratek yard to TX Tank Farm. During equipment inspection it was noted that one of the emergency shut-down switches was rubbing on the grating. The wire repair materials were located. A crimp tool will be brought in for repair on Monday.
		TX Tank Farm is secured.
		Note 1: Work will continue on 08/12/02 day shift.

REPORT BY: DE Skoglie
TITLE: Field Team Lead
SIGNATURE: D. E. Skoglie

REVIEWED BY: MG Gardner
TITLE: Project Manager DATE: 9-24-02
SIGNATURE: MG Gardner

Duratek Federal Services, Inc., Northwest Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: C3831	*WELL NUMBER*: N/A	*REPORT NUMBER*: 68	*DATE*: August 12, 2002 Monday
CONTRACT NUMBER: 8248-55	*START CARD NO*: S00631	*RIG MODEL/NO*: SIMCO 5000 (Rig 106)	
PURPOSE: Daily safety meeting. Geophysical logging (Spectral) 80 - ?? and 10% re-run.	*REFERENCE*: DFSNW-DOW-006, Rev. 0	*LOCATION*: TX Tank Farm, 200 West	
REFERENCE MEASURING POINT: Steel Plate		*TOTAL SHIFT FOOTAGE*: 0.0 ft.	

CONSTRUCTION DESCRIPTION: N/A

CASING SIZE	SET-AT DEPTH	TYPE CASING	DRIVE POINT DIMENSION	START DEPTH	END DEPTH
7.0 " OD	NA	CS	Shoe, 7.5 " OD	114.12 ft	114.12 ft.

BORING DEPTH: START: 115.37 ft
END: 115.37 ft

START TIME: 07:00
END TIME: 16:30
CONTRACTOR TIME: 0.5
TOTAL TIME: 9.5

DOCUMENTED DOWNTIME

N/A

WEATHER CONDITIONS (373-2716 or 373-2710)

N/A

CASING SUMMARY

Bottom of 7 " OD casing (start of shift) = 114.12 ft.
Bottom of 7" OD casing (end of shift) = 114.12 ft
Casing (7 in OD) stick up (end of shift) = 0.84

SAMPLE SUMMARY

N/A

PERSONNEL:
OPERATOR: K. Olson
D Morris/D Curry
WA LICENSE #: 1217
OTHER: D. Skoglie/J. Meisner
K. Young
K. Johnson (PIC)
K. Harteilius (HPT)

TIME FROM	TO	*DESCRIPTION OF OPERATIONS/REMARKS*
07:00	07:25	Conduct daily safety meeting. During the daily safety meeting crew discussed anticipated activities.
07:25	13:15	The Spectral logging tool is set-up and instrumentation calibrated.
		Conduct geophysical logging. Spectral logging completed to 114.46 ft bgs. Demobilize logging truck.
		BSE located pins to utilize head. Mr. Flower fabricated a casing stabilizer. Mr. Snydor reviews the next work location.
13:15	14:30	A mast inspection revealed all mast components in good operating condition.
14:30	15:35	Disassembling drill pipe (breaking down the 10's). No CHG support to continue farm work.
15:35	16:30	Conduct documentation. Check on replacement parts.
		The work package is not released.

REPORT BY: DE Skoglie
TITLE: Field Team Lead
SIGNATURE: D. E. Skoglie

REVIEWED BY: MG Gardner
TITLE: Project Manager DATE: 9-24-02
SIGNATURE:

Duratek Federal Services, Inc., Northwest Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: C3831	*WELL NUMBER*: N/A	*REPORT NUMBER*: 69	*DATE*: August 13, 2002 Tuesday
CONTRACT NUMBER: 8248-55	*START CARD NO*: S00631	*RIG MODEL/NO*: SIMCO 5000 (Rig 106)	
PURPOSE: Daily safety meeting. Decommissioning boring.	*REFERENCE*: DFSNW-DOW-006, Rev. 0	*LOCATION*: TX Tank Farm, 200 West	
REFERENCE MEASURING POINT: Steel Plate	*TOTAL SHIFT FOOTAGE*: 40.39 ft.		

CONSTRUCTION DESCRIPTION: N/A

CASING SIZE	SET-AT DEPTH	TYPE CASING	DRIVE POINT DIMENSION	START DEPTH	END DEPTH
7.0 " OD	NA	CS	Shoe, 7.5 " OD	114.12 ft	71.18ft.

BORING DEPTH: START: 115.37 ft
END: 74.98 ft

START TIME: 07:00
END TIME: 16:30
CONTRACTOR TIME: 0.5
TOTAL TIME: 9.5

DOCUMENTED DOWNTIME

N/A

WEATHER CONDITIONS (373-2716 or 373-2710)
11:00
90F, wind NE 6-8 mph, WBGT 76F, 22% humidity, 29.65 barometric pressure

CASING SUMMARY

Bottom of 7 " OD casing (start of shift) = 114.12 ft.
Bottom of 7" OD casing (end of shift) = 71.18 ft
Casing (7 in OD) stick up (end of shift) = N/A

SAMPLE SUMMARY

N/A

PERSONNEL:
OPERATOR: K. Olson
D Morris/D Curry
WA LICENSE #: 1217
OTHER: D. Skoglie/J. Meisner
K. Young/R. Sharp (Opr)
K. Johnson (PIC)
K. Harteilius (HPT)

TIME FROM	TO	*DESCRIPTION OF OPERATIONS/REMARKS*
07:00	07:23	Conduct daily and weekly safety meeting. During the daily safety meeting crew discussed anticipated activities.
07:23	08:10	Equipment inspection completed with no deficiencies noted. The remaining Dp was disassembled. Casing and Dp were moved to staging area.
08:10	08:43	Initiate decommissioning process. Remove 3 ft section of casing. Casing pulling at 1,400 psi. The jacks will not grip on the next section of casing.
08:43	10:00	Disassemble wrenches to work on casing slips. The steel ring was removed and slips cleaned and reinstalled.
10:00	10:15	Wrenches were also evaluated. Mr. Flower decides to modify present configuration. The steel ring will also be modified (grove cut deeper and longer bolts if possible).
10:15	10:50	Cutting/welding permit in place. Weld tabs on hammer and cut ¾ inch hole in jack base. Install centralizer and secure with steel bar.
10:50	11:35	Pull and remove casing 5.0 ft. (casing depth 105.05 ft bgs). Add bentonite crumbles (3.5 sks) tag 114.98 ft bgs. Pull and remove casing 10 ft (casing depth 95.95 ft bgs). Add bentonite crumbles (5 sks) tag 97.38 ft bgs.
11:35	12:05	Lunch
12:05	12:36	Tag bentonite @ 97.35 ft bgs. Pull and remove casing 10 ft (casing depth 85.45 ft bgs). Add bentonite crumbles (4sks), tag bentonite @ 88.3 ft bgs ft bgs.
12:05	13:10	Tag bentonite @ 88.27 ft bgs. Pull and remove casing 10 ft (casing depth 76.07 ft bgs). Add bentonite crumbles (4sks), tag bentonite @ 79.25 ft bgs.
13:10	13:28	Tag bentonite @ 79.2 bgs. Pull and remove casing 5 ft (casing depth 71.18 ft bgs). Add bentonite crumbles (2.5sks), tag bentonite @ 74.98 ft bgs.
13:28	16:30	Area secured. Pick-up miscellaneous components for perk. PIC leaves site @ 14:30.

REPORT BY: D.E. Skoglie
TITLE: Field Team Lead
SIGNATURE: D.E. Skoglie

REVIEWED BY: MG Gardner
TITLE: Project Manager DATE: 9-24-02
SIGNATURE: MGGardner

Duratek Federal Services, Inc., Northwest Operations

DRILLING AND SAMPLING (PERCUSSION) DAILY WORK RECORD

Page 1 of 1

WELL I.D.: C3831	*WELL NUMBER*: N/A	*REPORT NUMBER*: 70	*DATE*: August 14, 2002 Wednesday
CONTRACT NUMBER: 8248-55	*START CARD NO*: S00631	*RIG MODEL/NO*: SIMCO 5000 (Rig 106)	
PURPOSE: Daily safety meeting. Continue decommissioning process.	*REFERENCE*: DFSNW-DOW-006, Rev. 0	*LOCATION*: TX Tank Farm, 200 West	
REFERENCE MEASURING POINT: Steel Plate		*TOTAL SHIFT FOOTAGE*: 74.98 ft.	

CONSTRUCTION DESCRIPTION: N/A

CASING SIZE	SET-AT DEPTH	TYPE CASING	DRIVE POINT DIMENSION	START DEPTH	END DEPTH
7.0 " OD	NA	CS	Shoe, 7.5 " OD	71.18 ft	0 ft.

BORING DEPTH: START: 74.98 ft
END: 0 ft

START TIME: 07:00
END TIME: 16:30
CONTRACTOR TIME: 0.5
TOTAL TIME: 9.5

DOCUMENTED DOWNTIME

N/A

WEATHER CONDITIONS (373-2716 or 373-2710)
8:00
87F, wind NW 15 mph, WBGT 73F, 25% humidity, 28.66 barometric pressure

CASING SUMMARY

Bottom of 7 " OD casing (start of shift) = 71.18 ft.
Bottom of 7" OD casing (end of shift) = 0 ft
Casing (7 in OD) stick up (end of shift) = N/A

SAMPLE SUMMARY

N/A

PERSONNEL:
OPERATOR: K. Olson
D Morris/D Curry
WA LICENSE #: 1217
OTHER: S.H. Worley
R. Sharp (Opr)
K. Johnson (PIC)
K. Harteilius (HPT)
H. Sydnor

TIME FROM	TO	*DESCRIPTION OF OPERATIONS/REMARKS*
07:20	08:00	Conduct daily and weekly safety meeting. During the daily safety meeting crew discussed anticipated activities. Discussed Casing depths, fill depths, plan for the PERK test. Concerns of water in the casing could impede decommissioning process. Harold Sydnor made the call to cancel the PERK test and continue decommissioning. Held planning meeting. Klint Johnson informed that generator would be moved this morning, will cause shut down of work due to air samplers down.
08:00	08:20	Equipment inspection completed with no deficiencies noted. Pulled back 8', removed one 5' joint, added one bag bentonite. Shut down due to generator move. (66.18')
09:44		Check weather: 93F Wind N 16-17
09:52	10:05	Back in the farm, pulled 1' back, down for Ground rod on generator
10:05	12:00	Pulled 5' off (61.18), added 6 bags. 11:05 pulled another 5' off (56.18) 11:18 pulled another 5' (51.18) 5 bags added, 11:25 pulled another 5' off (46.18) 11:44 Pulled another 5' off (41.18) 5 bags added. 11:50 Pulled another 5' (36.18)
12:00	12:30	Lunch
1:05		Check Weather:100 F, Wind N 15 mph, WBGT 80 degrees
12:05	14:40	Pin interfering with casing slips, had to be hammered. 1:15 repaired, 1:25 Pulled another 5' (31.18) added 4 bags. 1:35 Pulled another 5' (26.18), 1:50 pulled another 5' (21.18) added 6 bags, 2:00 pulled another 5' (16.18'), 2:13 pulled another 5' (11.18) 4 bags added, 2:20 pulled another 5' (6.18') 2:40 pulled last 5' (1) 6 bags used. Total of 37 bags used today.
14:40	15:05	Surveyed shoe and cleaned the jacks and slips of bentonite. Surveyed out and shut down!

REPORT BY: S. H. Worley
TITLE: Field Team Lead
SIGNATURE: D.E. Skoglie for

REVIEWED BY: MG Gardner
TITLE: Project Manager DATE: 9-24-02
SIGNATURE:

APPENDIX B

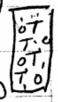
GEOLOGIC/SAMPLE LOGS

This page intentionally left blank.

113.77-115.20 (1.43')

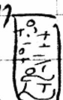
Caliche

Cemented; basalt pebbles interspersed; mottled; lt brn gry; sandy silt — silty sand intermixed; dry, almost powdery

113.77

115.20

114.47'-115.89' (1.42')

Same as above; however, bottom liner has dark and light swirl look; lt brn gry; silty sandy possibly clayey

114.47

115.89

TX-107 C3831 8/24/02

0800 - At 300 area Lab.

1 {
14.93-15.62 Sandy Gravel; sluff, broken up, not intact, 2.5Y N4 dark gray; backfill

15.62-16.31 Sandy GRAVEL; backfill; uncon., 10YR 4/1 dark gray; minor $CaCO_3$; slightly moist
}

2 {
20.8-21.5 Sand Gravel, sluff; backfill, uncon. 10YR 4/2 dark gray, minor $CaCO_3$

21.5-22.3 Sandy GRAVEL; backfill; uncon. 10YR 4/2 dk gry; minor $CaCO_3$; m-c sand; vfp-m-large pebble gravel; basalt
}

3 {
27.94-28.58 - Sandy GRAVEL; sluff; backfill as above.

28.58-29.21 Sandy GRAVEL; as above, backfill; minor $CaCO_3$
}

4 {
45.06-45.72 sluff, or bottom of backfill at top of sample. Sharp contact w/ silty sand; 75% f-v. fine sand → silt 10YR 5/2 grayish brown; $CaCO_3$, moderate

45.72-46.39' silty sand as above on top of basalt/exotic pebble gravels
}

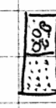
45.72-46.39. Basket held corroded nails or metal material. Indicates still in backfill, artifact of tank construction. *Layer of fines on top of c sands and gravels. Lower coarse sand highly fizzy

5

51.01-51.68 Lith change; sluff; broken up Sandy GRAVELS; NO CaCO3; 10YR 6/1 light gray-gray m-coarse sands; basalt, v. coarse pebbles; dry; uncon

51.68-52.36 Sandy GRAVELS 50% sand (m-c) 50% basalt round-subround m-v. coarse pebble gravels, uncon; slightly moist 10YR 4/2 dark grayish brown; very poorly sorted; oxidation spotty No CaCO3; silty sand intermixed w/ gravels in shoe.

(6)



52.16-52.83 Sandy GRAVEL, sluff broken up, uncon; dry 10YR 6/1; NO CaCO3 LITH change

52.83-53.51 Sand; 80% m, 20% coarse trace fines; 10YR 6/2 light brownish gray; uncon; dry; 60% q-f, 40% basalt.

Contact backfill / Hf at approx. 52'

(7)

59.04-59.64 Sand: 90% medium sand 10% fines; dry; 60% q-f, 40% basalt; 10YR 6/2 light brownish gray; CaCO3; spotty oxidation, dry some moist?, Sands look compacted - artifact of sampling method

59.64-60.24 SAND 90% m 10% fines 10YR 5/2 grayish brown 60/40 q-f/B transition to sandy silt in basket @ 60.24 ft; dry; Oxidation in sandy silt; moderate CaCO3

(8) 60.08-60.79 Silty Sand; 40% silt

50% fine-v. fine sand; 10% coarse
sand; dark, vertical bedding or
intrusion, clastic dike? marbled
10YR 4/2 dark grayish brown; some
$CaCO_3$; slightly damp

60.79-61.5 SAND 60% med 40% c. sand
50% B 50% Q-f; slightly moist;
uncon; 10YR5/2 grayish brown;
little $CaCO_3$

(9) 67.19-67.86 SAND; sluff

dry; SAA; moderate $CaCO_3$
10YR 6/2 light brownish gray

67.86-68.54 SAND 90% med-10% f
10YR5/2 grayish brown; 60% q-f; 40% B
contact w/ sand silt in basket at bottom
of sample; dry; moderately compact.
Silt is laminar; $CaCO_3$

68.43-68.?? SAND: compacted sluff
typical sluff features; dry disturbed no bedding
10YR5/2 grayish brown; $CaCO_3$

(10)

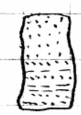
69.21-69.98 Sand w/ silt interbeds
70% med 30% coarse sand; dry;
60% q-f 40% basalt; 10YR 5/2
grayish brown; $CaCO_3$

(11)

74.04-74.67 SAND: compacted sluff
10YR5/2 grayish brown; $CaCO_3$
disturbed sample; dry

74.67-75.3 Sand-silt interbeds
80% med sand 20% coarse sand; silt
interbeds; 50% B, 50% q-f
10YR5/2 grayish brown; moderate $CaCO_3$

(12) 76.73-77.35 Sand: compacted, disturbed
sand 70% m-30% f sand, 10YR5/2



grayish brown; 50% B, 50% q-f
$CaCO_3$

77.35-77.98 Sand and silt interbeds;
med-coarse sand - silt beds
10YR5/2 grayish brown, spotted OX
50% q-f 50% B

(13) 77.76-78.4 Sand; fining downward
coarse sand primarily f-f.
70% m-c 30% fines; 60% g-f
40% B; slightly moist; 10YR 4/2
dark grayish brown; moderate $CaCO_3$
78.4-79.02 Sand-silt interbeds
60% g-f 40% B; dry; 70% m
20% c 10% f sand; 10YR 4/2
dark grayish brown; moderate $CaCO_3$

(14) 85.05-85.67 Sand (SW/B)
in top of flaming silt; 60% m
30% fine 10% coarse sand;
silt cohesive; 10YR 4/2 dk gray/ish
brown; strong $CaCO_3$
85.67-86.3 Sand-silt interbeds
alternating silt to fine sand
interbeds; medium sand on
bottom of sample; 10YR 5/3
brown; strong $CaCO_3$

(15) 88.3-89.02 Sand; ground up; SW/B
no bedding features
80% m 20% f sand
moderate $CaCO_3$ 10YR 5/2
grayish brown

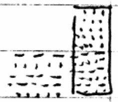
89.02-89.75 Sand m. Sand 70%
30% fine S.; dry; Uncon
Uniform; 60% g-f 40% B
10YR 5/2 grayish brown; moderate $CaCO_3$

(16) 93.05-93.67 Sand; Compacted silt
70% M S 30% FS; Uncon;
10YR 6/2 light brownish gray
moderate $CaCO_3$

93.67-94.3 Sand
70% m S 30% fs; dry; uncon
10YR 6/2 Light brownish gray; 60% g-f
40% B; Slight-moderate rxn w/HCL

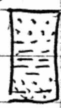
8/15/02

(17) 97.11-97.74 SAND - sluff, compacted disturbed; 60% MS - 30% fs 10% vfs; moderate $CaCO_3$ 10YR 6/2 light brownish gray



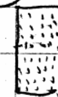
97.74-98.38 ~~Sand: Silt~~ Sand interbeds
Sand: 90% m. grain 10% f. grain 50% g-f 50% basalt; 10YR 5/2 grayish brown. silt bed thickness varies from 1/4 to 1/2 in.; laminated; mod-strong $CaCO_3$

(18) 100.2-100.92 Sand - silt interbeds as above; 10YR 5/2 grayish brown strong $CaCO_3$



100.92-101.65 Sand-silt interbeds SAA 10YR 5/2 grayish brown; strong $CaCO_3$

(19) 101.63-102.25 Sand - loose sluff 50% MS 50% fs; strong $CaCO_3$ 10YR 6/2 light brownish gray; some silt fines near base of sample; 50% B 50% q-f



102.25-102.98 Silty SAND 70% f. sand 30% silt No bedding; uniform 10YR 6/3 pale brown strong $CaCO_3$

(20) 114.12-114.82 SAND w/ minor amounts of $CaCO_3$ (rounded blebs) 15-20% m-coarse basalt sands dispersed throughout 60% fine sands 20% silts some slight oxidation. No apparent bedding; slightly mottled; 10YR 6/3 pale brown; a few v. fine rounded basalt pebbles; v. strong $CaCO_3$

114.82-115.37 Contact w/ Caliche
Well developed caliche @ bottom 1/2
of liner. 1~~2~~0-5% m-c basalt
sand w/ trace of q-f? Rounded
-subangular.
60% v. fine sand; remainder
silt. mottled; larger blebs of
$CaCO_3$ near top of sample grading
to a well developed, compact,
uniform caliche. No apparent
bedding observed; grainy
texture; 10YR 7/2 light gray;
dry; v. strong rxn.

APPENDIX C

GEOPHYSICAL LOGS

This page intentionally left blank.

Borehole Survey Log Header

Duratek Federal Services, Inc.

Project: 241-TX-107 Drilling **Borehole:** C3831

Log Types: HPGe Spectral-Gamma & Neutron-Moisture

Borehole Information

Well ID	C3831	Water Depth	None ft	Total Depth	115 ft
Elevation Reference		Elevation	n/a ft		
Depth Reference	Ground Level	Casing Stickup	4.67 ft		
Casing Diameter	5.81 in I.D.	Depth Interval	0to114.12ft	Thickness	0.59 in
Casing Diameter	in I.D.	Depth Interval	ft	Thickness	in

Logging Information

Log Type	Neutron-Moisture Gauge		HPGe Spectral-Gamma	
Logging Unit	RLS-1		RLS-1	
Logging Engineer	J. Meisner		J. Meisner	
Instrument ID	RLSM00.0		RLSG07000S01.0	
Instrument Calibration Date	Jan. 29, 2002		Oct. 29, 2001	
Survey Date	Aug. 8, 2002		Jun. 6, 2002	
Depth Interval / Prefix	0 to 80 ft	MC03	0 to 14.5 ft	A731
	68 to 115 ft	MC04	12 to 80 ft	A732
			72 to 75 ft	Repeat
			78 to 114.4 ft	A733
			65 to 70.5 ft	Repeat
			108 to 114 ft	Repeat

Analysis Information

Company	Pacific Northwest Geophysics
Analyst	Randall Price
Date	August 13, 2002

Notes: The repeatability (precision) of the Moisture and Gamma surveys is good. No U-238 was detected in the survey. Co-60 was detected from 52 feet to the maximum survey depth of 114.4 feet; maximum concentration is 61 pCi/g at 61.5 and 68.5 feet. Moisture for 7.0-inch O.D. borehole was computed using the 6.56-inch O.D. calibration model coefficients.

Log Analysis Summary Report

Duratek Federal Services, Inc.

Project:	241-TX-107 Drilling	Well ID:	C3831
Log Type:	Neutron-Moisture & HPGe Spectral Gamma	Log Dates:	August 12, 2002

General Notes:

The moisture survey shows that the formation moisture content gradually increases from about 5 vf% (volume fraction percent) to near 15 vf%. Several thin zones of higher moisture content are present through out the hole. The change in measurement geometry at the surface (0 ft) dominates the detector response and the low apparent moisture content may not be correct. At the bottom of the survey (114 feet) the abrupt decrease in moisture content followed by a rapid increase to apparent moisture content in excess of 15 vf% is the result of changes in borehole conditions (i.e. casing drive shoe then entry into the un-cased open hole). The moisture survey is appropriate for identifying changes in the relative moisture content.

The gross gamma increase in the zone from 52 to the bottom of the survey (114 ft) is from Co-60. Low concentrations of natural thorium were encountered between 79 and 84 feet, along with decreased concentration of natural uranium. The increase in detector responses at the survey bottom (114 feet and below) is the result of the detector entering the open hole below the drilling casing.

Environmental Corrections: The casing thickness correction (as shown on the Borehole Survey Log Header) was applied to the detector responses before computing the apparent moisture content and radionuclide concentration. No formation density correction was applied since it is assumed to be similar to calibration model densities (approx. 1.76 g/cc). No casing correction was applied to the Total Gamma due to Compton down-scatter interference.

Depth Reference: Zero depth of log survey is at ground level.

System Performance Verification: The gamma survey pre- and post-log verification was performed using "Coleman #1" mantles. The maximum FWHM (full width at half maximum) for the 583 keV gamma ray photo peak (^{232}Th) was 2.3 keV. The maximum acceptable FWHM resolution is 3.1 keV for probe RLSG07000S01.0.

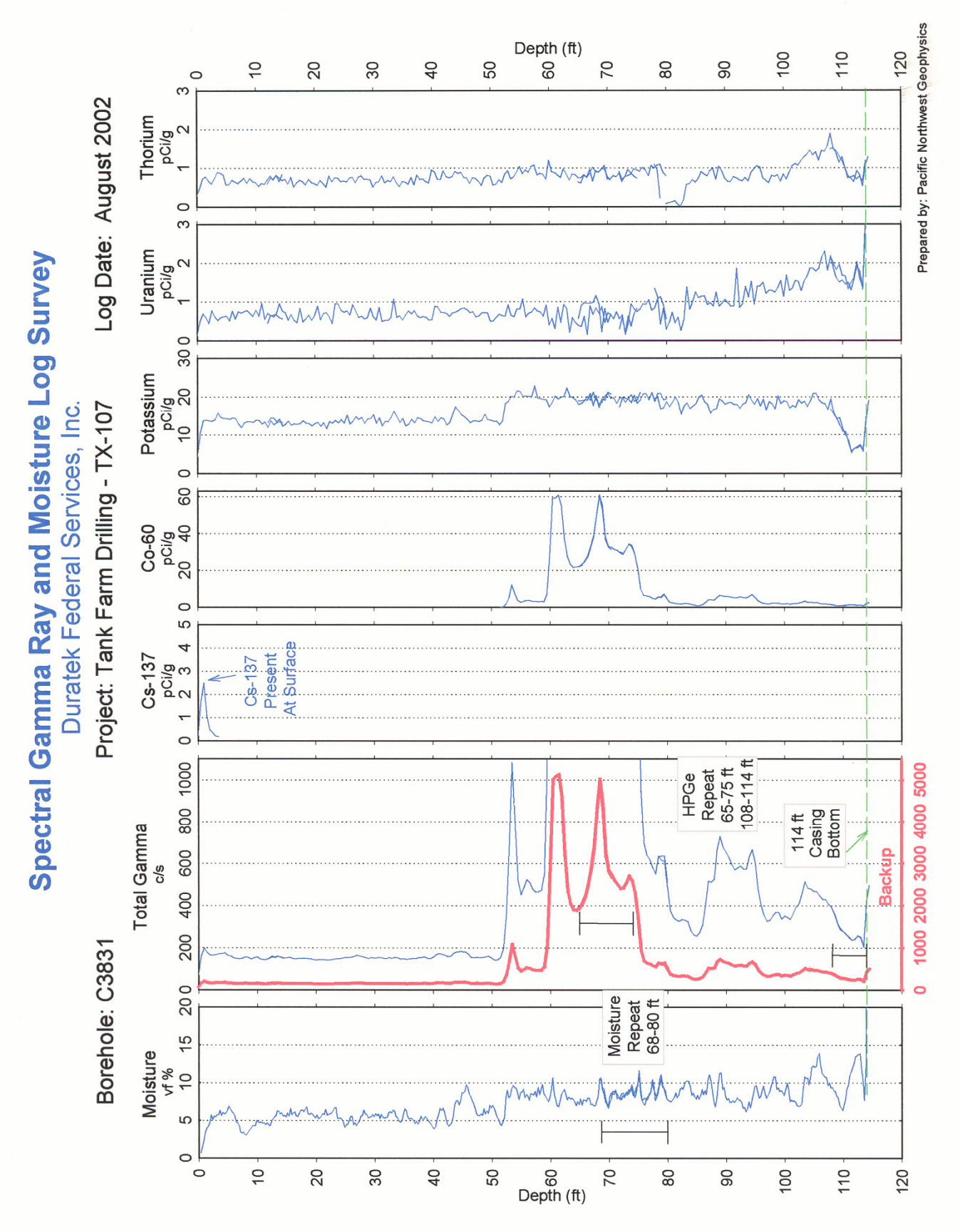
The moisture survey pre- and post-log verification measurements (626 and 716 c/s respectively) were within the range of previous system performance checks.

Repeat Interval: The repeat intervals have excellent agreement with the main log. (Moisture repeat is 68-80 ft.) (Gamma repeat is 65-75 and 108-114 ft.)

Radionuclides:

- Cs-137 is present at the surface (0 to 4 feet) at a concentration less than 2.5 pCi/g.
- Co-60 was detected from 52 feet to the maximum survey depth (114.4 feet). The maximum concentration is 61 pCi/g at 61.5 and 68.5 feet.
- U-238 was not detected in the survey

	Co-60	Cs-137
max. Concentration	60.8 pCi/g @ 61.5&68.5 ft	2.5 pCi/g @ 1 ft
max. Depth at MDL	> 114.4 ft	3.5 ft
MDL	0.1 pCi/g	0.1 pCi/g

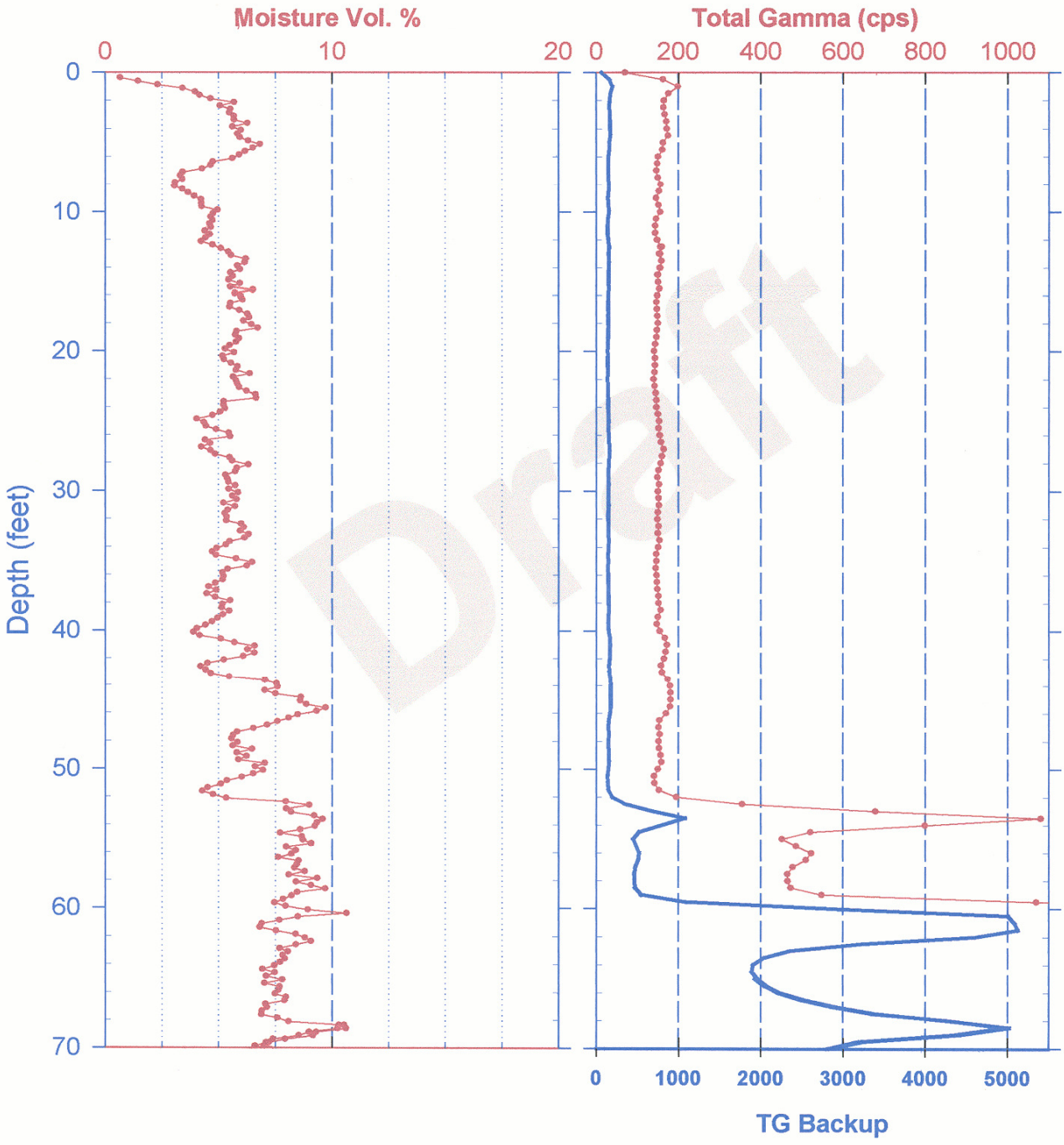

Spectral Gamma Ray and Moisture Log Survey
Duratek Federal Services, Inc.
Borehole: C3831
Project: Tank Farm Drilling - TX-107
Log Date: August 2002
Prepared by: Pacific Northwest Geophysics
Depth (ft)
Thorium pCi/g
Uranium pCi/g
Potassium pCi/g
Co-60 pCi/g
Cs-137 pCi/g
Cs-137 Present At Surface
Total Gamma c/s
HPGe Repeat 65-75 ft 108-114 ft
114 ft Casing Bottom
Backup
Moisture vf %
Moisture Repeat 68-80 ft

RLS Moisture & Spectral Gamma

Duratek Federal Services, NW Operations

Project: TX Drilling
Borehole: C3831

Log Date : August 2002
Depth Datum: Ground Level

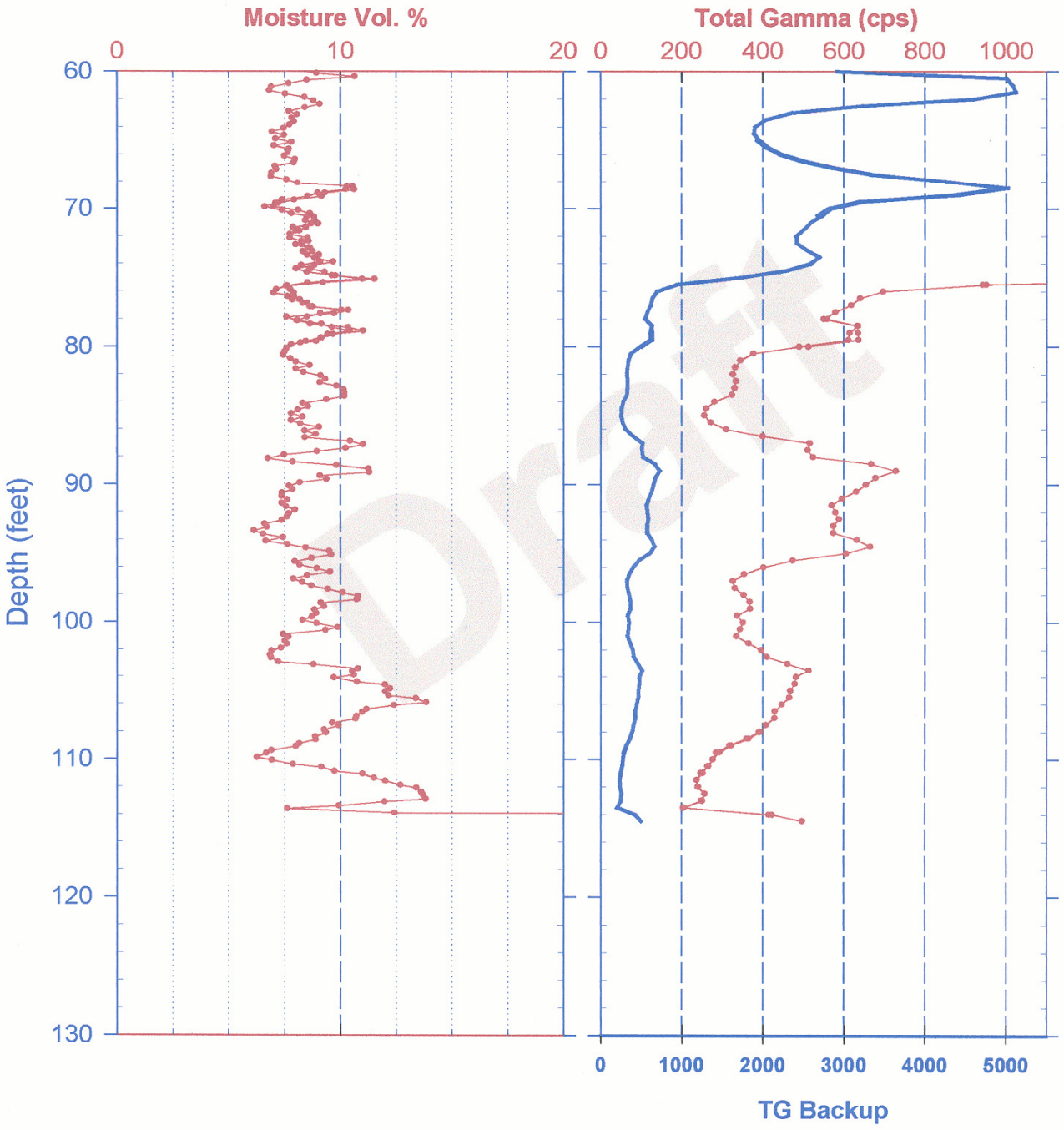


RLS Moisture & Spectral Gamma

Duratek Federal Services, NW Operations

Project: TX Drilling
Borehole: C3831

Log Date : August 2002
Depth Datum: Ground Level



This page intentionally left blank.

APPENDIX D

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUESTS

This page intentionally left blank.

Duratek Federal Services

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C # 102229

Page ___ of ___

Collector: HOGAN JG	Contact/Requestor: Sycanor Harold	Tel. No. 372-9414	MSIN H0-22 FAX
AF Number: S02-057	Sample Origin: TX-107	Purchase Order/Charge Code	
Project Title: TX-107 (C3831)	Logbook #: DESMW-SAWS-H55	Ice Chest #	Temp.
Shipped To (Lab): AG & G	Method of Shipment: GOVT. TRUCK	Bill of Lading/Air Bill No.	
Protocol: RCRA	Data Turnaround: Per contract	Offsite Property No.	

Sample No.	Lab. ID	*	Date	Time	No/Type Container	Sample Analysis		Perservative
02057-01		S	7-2-02	1010	(1) S/S	PER CONTRACT	DEPTH 14.93'-16.21'	COOL 4°C
					( )			
					( )			
					( )			
					( )			
					( )			
					( )			
					( )			
					( )			
					( )			
					( )			
					( )			

POSSIBLE SAMPLE HAZARDS/REMARKS
List all known wastes.

MSDS Yes ☐ No ☐

SPECIAL INSTRUCTIONS

Hold Time

Relinquished By (Print / Sign)	Date/Time	Received By (Print / Sign)	Date/Time
JG HOGAN / [signature]	7-2-02 / 1455	Clark Lindemann / [signature]	7-2-02 / 1455
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

Matrix *

S = Soil		DS = Drum Solids	
SE = Sediment		DL = Drum Liquids	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wipe	
W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

FINAL SAMPLE DISPOSITION | Disposal Method e.g. Return to customer, per lab procedure, used in process. | Disposed By | Date/Time

DFNW-SS-010

Duratek Federal Services

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C # 102230

Page 1 of 1

Collector: F.M. Hall	Contact/Requestor: Sylvanor Harnold	Tel. No.: 372-9414 MSIN: HO-22 FAX:	
AF Number: S02-057	Sample Origin: TX-107	Purchase Order/Charge Code:	
Project Title: TX-107 (<3531)	Logbook #: DFSNW-SAWS-H55	Ice Chest #: Drum # 1 Temp.	
Shipped To (Lab): AG & G	Method of Shipment: Govt Truck	Bill of Lading/Air Bill No.:	
Protocol: RCRA	Data Turnaround: Per contract	Offsite Property No.:	

Sample No.	Lab. ID	*	Date	Time	No/Type Container	Sample Analysis	Depth	Perservative
S02057-02			7-3-02	10:43	(1) SS	Per Contract	20.9 – 22.3	Cool 4°C
					( )			
					( )			
					( )			
					( )			
					( )			
					( )			
					( )			
					( )			
					( )			
					( )			
					( )			

POSSIBLE SAMPLE HAZARDS/REMARKS List all known wastes. MSDS Yes ☐ No ☐

SPECIAL INSTRUCTIONS Hold Time

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
	FM Hall		7-3-02 1400				7-3-02 1400
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

S = Soil		DS = Drum Solids	
SE = Sediment		DL = Drum Liquids	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wipe	
W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

FINAL SAMPLE DISPOSITION	Disposal Method e.g. Return to customer, per lab procedure, used in process.	Disposed By	Date/Time

DFNW-SS-010

Duratek Federal Services

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C # 102231

Page 1 of 1

Collector K.J. Young	Contact/Requestor Sylvan Harold	Tel. No. 372-9414 MSIN HO-22 FAX
SAF Number S02-057	Sample Origin TX Farm	Purchase Order/Charge Code
Project Title TX-107 (C3831)	Logbook # DFSNW-SAWS- H53	Ice Chest # Drum # 1 Temp.
Shipped To (Lab) AG & G	Method of Shipment Gov Truck	Bill of Lading/Air Bill No. N/A
Protocol RCRA	Data Turnaround Per contract	Offsite Property No. N/A

Sample No.	Lab. ID	*	Date	Time	No/Type Container	Sample Analysis	Perservative
						Depth	
S02057-03			7/18/2	1000	(1) S/S	Per contract 28-29 ft	Cool 4°C
					( )		
					( )		
					( )		
					( )		
					( )		
					( )		
					( )		
					( )		
					( )		
					( )		
					( )		
					( )		

POSSIBLE SAMPLE HAZARDS/REMARKS List all known wastes. MSDS Yes ☐ No ☑

SPECIAL INSTRUCTIONS Hold Time

Relinquished By Print	Sign	Date/Time	Received By Print	Sign	Date/Time
K.J. Young	K.J. Young	7/18/02 1420	Conny LeGore	Conny LeGore	7/18/02 1420
Relinquished By		Date/Time	Received By		Date/Time
Relinquished By		Date/Time	Received By		Date/Time
Relinquished By		Date/Time	Received By		Date/Time

Matrix *

S = Soil		DS = Drum Solids	
SE = Sediment		DL = Drum Liquids	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wipe	
W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

FINAL SAMPLE DISPOSITION Disposal Method e.g. Return to customer, per lab procedure, used in process. Disposed By Date/Time

DFNW-SS-010

Duratek Federal Services

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C # 102232

Page 1 of 1

Collector K.J. Young	Contact/Requestor Sydnor Harold	Tel. No. 372-9414	MSIN H0-22 FAX
AF Number S02-057	Sample Origin TX-Farm	Purchase Order/Charge Code	
Project Title TX-107 (C3831)	Logbook # DFSNW-SAWS-H53	Ice Chest # Drum # 1	Temp.
Shipped To (Lab) AG & G	Method of Shipment Gov Truck	Bill of Lading/Air Bill No.	N/A
Protocol RCRA	Data Turnaround Per contract	Offsite Property No.	N/A

Sample No.	Lab. ID	*	Date	Time	No/Type Container	Sample Analysis	Depth	Perservative
S02057-04			7/22/02	1520	(1) S/S	Per contract	45-46 ft	Cool 4°C
					( )			
					( )			
					( )			
					( )			
					( )			
					( )			
					( )			
					( )			
					( )			
					( )			
					( )			

POSSIBLE SAMPLE HAZARDS/REMARKS
List all known wastes.

MSDS Yes ☐ No ☑

SPECIAL INSTRUCTIONS

Hold Time

Relinquished By (Print / Sign)	Date/Time	Received By (Print / Sign)	Date/Time
K.J. Young / [signature]	7/22/02 1605	Ginny LeGore / [signature]	7/22/02 1605
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

Matrix *

S = Soil		DS = Drum Solids	
SE = Sediment		DL = Drum Liquids	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wipe	
W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

FINAL SAMPLE DISPOSITION | Disposal Method e.g. Return to customer, per lab procedure, used in process. | Disposed By | Date/Time

DFNW-SS-010

Duratek Federal Services

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # 102233

Page 1 of 1

Collector	Contact/Requestor Sylvan Harold	Tel. No. 372-9414 MSIN HO-22	FAX
AF Number S02-057	Sample Origin TX-Farm	Purchase Order/Charge Code N/A	
Project Title TX-107 (<3831)	Logbook # DFSNW-SAWS-55	Ice Chest # Drum 1 & 2	Temp.
Shipped To (Lab) AG & G	Method of Shipment Gov Truck	Bill of Lading/Air Bill No. N/A	
Protocol RCRA	Data Turnaround Per contract	Offsite Property No. N/A	

Sample No.	Lab. ID	*	Date	Time	No/Type Container	Sample Analysis	Depth	Perservative
S02057-05			7/23/02	1142	(1) S/S	Per contract	51 - 52 ft	
S02057-06			7/23/02	1322	(1) S/S	"	52 - 53 ft	
S02057-07			7/23/02	1533	(1) SS	"	59 - 60 ft	
					( )			
					( )			
					( )			
					( )			
					( )			
					( )			
					( )			
					( )			
					( )			

POSSIBLE SAMPLE HAZARDS/REMARKS List all known wastes. MSDS Yes ☐ No ☑

SPECIAL INSTRUCTIONS Hold Time

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
	K.J. Young	Ken Young	7/23/02 1625	Ginny Logar	Ginny Logar	Ginny Logar	7/23/02 1625
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

S = Soil		DS = Drum Solids	
SE = Sediment		DL = Drum Liquids	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wipe	
W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

FINAL SAMPLE DISPOSITION — Disposal Method e.g. Return to customer, per lab procedure, used in process. Disposed By Date/Time

DFNW-SS-010

Duratek Federal Services

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. # 102234

Page 1 of 1

Collector	Contact/Requestor Sycamor Harold	Tel. No. 372-9414 MSIN H0-22	FAX
AF Number S02-057	Sample Origin TX-Farm	Purchase Order/Charge Code	
Project Title TX-107 (C3831)	Logbook # DFSNW-SAWS-H55	Ice Chest # Drum # 1 & # 2	Temp.
Shipped To (Lab) A6 & G	Method of Shipment Gov Truck	Bill of Lading/Air Bill No. N/A	
Protocol RCRA	Data Turnaround Per contract	Offsite Property No. N/A	

Sample No.	Lab. ID	*	Date	Time	No/Type Container	Sample Analysis	Depth	Perservative
02057-08			7/24/02	0935	(1) S/S	Per contract	60-61 Ft	
					( )			
					( )			
					( )			
					( )			
					( )			
					( )			
					( )			
					( )			
					( )			
					( )			
					( )			

POSSIBLE SAMPLE HAZARDS/REMARKS
List all known wastes.

MSDS Yes ☐ No ☑

SPECIAL INSTRUCTIONS

Hold Time

Relinquished By Print	Sign	Date/Time	Received By Print	Sign	Date/Time
K.J. Young		7/24/02 1530	Ginny LeGore		7/24/02 1530
Relinquished By		Date/Time	Received By		Date/Time
Relinquished By		Date/Time	Received By		Date/Time
Relinquished By		Date/Time	Received By		Date/Time

Matrix *

S = Soil		DS = Drum Solids	
SE = Sediment		DL = Drum Liquids	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wipe	
W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

FINAL SAMPLE DISPOSITION — Disposal Method e.g. Return to customer, per lab procedure, used in process. — Disposed By — Date/Time

DFNW-SS-010

Duratek Federal Services

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C # 102235

Page of

Collector K. J. Young	Contact/Requestor Sydnor Harold	Tel. No. 372-9414 MSIN HO-22 FAX	
F Number S02-057	Sample Origin TX-Farm	Purchase Order/Charge Code	
oject Title TX-107 (C3531)	Logbook # DFSNW-SAWS-H55	Ice Chest # Drum #1 Temp.	
ipped To (Lab) AG & G	Method of Shipment Gov Truck	Bill of Lading/Air Bill No.	
otocol RCRA	Data Turnaround Per contract	Offsite Property No.	

Sample No.	Lab. ID	*	Date	Time	No/Type Container	Sample Analysis	Perservative
02057-09			7/25/02	1215	(1) S/S	Per contract Depth 67-68	4°C
02057-10			7/25/02	1500	(1) S/S	" " 69-70	
					( )		
					( )		
					( )		
					( )		
					( )		
					( )		
					( )		
					( )		
					( )		
					( )		

POSSIBLE SAMPLE HAZARDS/REMARKS
List all known wastes.

MSDS Yes ☐ No ☑

SPECIAL INSTRUCTIONS

Hold Time

Relinquished By Print	Sign	Date/Time	Received By Print	Sign	Date/Time
K. J. Young	Ken Young	7/25/02 1610	Ginny LeGore	Ginny LeGore	7/25/02 1610
Relinquished By		Date/Time	Received By		Date/Time
Relinquished By		Date/Time	Received By		Date/Time
Relinquished By		Date/Time	Received By		Date/Time

Matrix *

S = Soil		DS = Drum Solids	
SE = Sediment		DL = Drum Liquids	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wipe	
W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

FINAL SAMPLE DISPOSITION — Disposal Method e.g. Return to customer, per lab procedure, used in process. — Disposed By — Date/Time

DFNW-SS-010

Duratek Federal Services

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C # 102236

Page 1 of 1

Collector K.J. Young	Contact/Requestor Sydnor Harold	Tel. No. 372-9414 MSIN HO-22 FAX
AF Number S02-057	Sample Origin DFSNW-SAWS-HSS	Purchase Order/Charge Code
Project Title TX-107 (<3831)	Logbook # TX-Farm	Ice Chest # Drum #1/#2 Temp.
Shipped To (Lab) AG&G	Method of Shipment Gov Truck	Bill of Lading/Air Bill No. N/A
Protocol RCRA	Data Turnaround Per contract	Offsite Property No. N/A

Sample No.	Lab. ID	*	Date	Time	No/Type Container	Sample Analysis	Depth	Perservative
S02057-11			7/29/02	0335	(1) S/S	Per contract	74-75 Ft	4°C
S02057-12			7/29/02	0710	(1) S/S	" "	77-78 Ft	
					( )			
					( )			
					( )			
					( )			
					( )			
					( )			
					( )			
					( )			
					( )			

POSSIBLE SAMPLE HAZARDS/REMARKS List all known wastes. MSDS Yes ☐ No ☑

SPECIAL INSTRUCTIONS Hold Time

Relinquished By Print / Sign	Date/Time	Received By Print / Sign	Date/Time
K.J. Young / K.J. Young	7/29/02 0805	Ginny LeGore / Ginny LeGore	7/29/02 0805
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time
Relinquished By	Date/Time	Received By	Date/Time

Matrix *

S = Soil		DS = Drum Solids	
SE = Sediment		DL = Drum Liquids	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wipe	
W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

FINAL SAMPLE DISPOSITION — Disposal Method e.g. Return to customer, per lab procedure, used in process. Disposed By Date/Time

DFNW-SS-010

Duratek Federal Services

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C # 102237

Page 1 of 1

Collector K.J. Young	Contact/Requestor Sydnor Harold	Tel. No. 372-9414 MSIN HO-22 FAX	
AF Number S02-057	Sample Origin TX-Farm	Purchase Order/Charge Code	
Project Title TX-107 (C3531)	Logbook # DFSNW-SAWS-HSS	Ice Chest # Drum #1	Temp.
Shipped To (Lab) AG&G	Method of Shipment Gov Truck	Bill of Lading/Air Bill No.	
Protocol RCRA	Data Turnaround Per contract	Offsite Property No.	

Sample No.	Lab. ID	*	Date	Time	No/Type Container	Sample Analysis	Perservative
S02057-13			7/30/02	0150	(1) S/S	Per contract Depth 78-79 Ft	4°C
~~S02057-14~~	KJ7				~~(1) S/S~~ KJ7		
					( )		
					( )		
					( )		
					( )		
					( )		
					( )		
					( )		
					( )		
					( )		
					( )		

POSSIBLE SAMPLE HAZARDS/REMARKS
List all known wastes.

MSDS Yes ☐ No ☑

SPECIAL INSTRUCTIONS

Hold Time

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
K.J. Young			7/30/02 0820	Cinny LeGore			7/30/02 0820
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

S = Soil		DS = Drum Solids	
SE = Sediment		DL = Drum Liquids	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wipe	
W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

FINAL SAMPLE DISPOSITION

Disposal Method e.g. Return to customer, per lab procedure, used in process.

Disposed By

Date/Time

DFNW-SS-010

Duratek Federal Services

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

102238

Page 1 of 1

Collector K.J. Young	Contact/Requestor Sylvanor Harold	Tel. No. 372-9414 MSIN H0-22	FAX
COC Number S02-057	Sample Origin TX-Farm	Purchase Order/Charge Code	
Project Title TX-107 (C3831)	Logbook # DFSNW-SAWS-H55	Ice Chest # Drum #1	Temp.
Shipped To (Lab) AG & G	Method of Shipment Gov Truck	Bill of Lading/Air Bill No. N/A	
Protocol RCRA	Data Turnaround Per contract	Offsite Property No. N/A	

Sample No.	Lab. ID	*	Date	Time	No/Type Container	Sample Analysis	Depth	Perservative
S02057-14			8/1/02	0130	(1) S/S	Per Contract	85-86 ft	4°C
S02057-15			8/1/02	0520	(1) S/S	" "	88-89 ft	4°C
					( )			
					( )			
					( )			
					( )			
					( )			
					( )			
					( )			
					( )			
					( )			
					( )			

POSSIBLE SAMPLE HAZARDS/REMARKS
List all known wastes.

MSDS Yes ☐ No ☑

SPECIAL INSTRUCTIONS

Hold Time

Relinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
	K.J. Young	K.J. Young	8/1/02 0740	Ginny Logan	Ginny Logan	Ginny Logan	8/1/02 0740
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time
Relinquished By			Date/Time	Received By			Date/Time

Matrix *

S = Soil		DS = Drum Solids	
SE = Sediment		DL = Drum Liquids	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wipe	
W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

FINAL SAMPLE DISPOSITION

Disposal Method e.g. Return to customer, per lab procedure, used in process.

Disposed By

Date/Time

DFNW-SS-010

Duratek Federal Services

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C # 102239

Page 1 of 1

lector K.J. Young	Contact/Requestor Sycnor Harold	Tel. No. 372-9414 MSIN HO-22	FAX
? Number S02-057	Sample Origin TX-Farm	Purchase Order/Charge Code	
ect Title TX-107 (<3831)	Logbook # DFSHW-SAW-H55	Ice Chest # Drum # 1	Temp.
ped To (Lab) A6 & G	Method of Shipment Gov Truck	Bill of Lading/Air Bill No.	
ocol RCRA	Data Turnaround Per contract	Offsite Property No.	

Sample No.	Lab. ID	*	Date	Time	No/Type Container	Sample Analysis	Depth	Perservative
02057-16			8/5/02	0205	(1) S/S	Per contract	93-94	4°C
02057-17			8/5/02	0630	(1) S/S	" "	97-98	4°C
					( )			
					( )			
					( )			
					( )			
					( )			
					( )			
					( )			
					( )			
					( )			
					( )			

OSSIBLE SAMPLE HAZARDS/REMARKS
List all known wastes

MSDS Yes ☐ No ☒

SPECIAL INSTRUCTIONS

Hold Time

elinquished By	Print	Sign	Date/Time	Received By	Print	Sign	Date/Time
	K.J. Young	Ken Young	8/5/02 0740	Ginny LeGore	Ginny LeGore		8/5/02 0740
elinquished By			Date/Time	Received By			Date/Time
elinquished By			Date/Time	Received By			Date/Time
elinquished By			Date/Time	Received By			Date/Time

Matrix *

S = Soil		DS = Drum Solids	
SE = Sediment		DL = Drum Liquids	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wipe	
W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

FINAL SAMPLE DISPOSITION — Disposal Method e.g. Return to customer, per lab procedure, used in process. — Disposed By — Date/Time

DFNW-SS-010

Duratek
Federal Services

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C # 102240

Page 1 of 1

lector K.J.-Young	Contact/Requestor Sylvan Harold	Tel. No. 372-9414 MSIN HO-22 FAX	
Number S02-057	Sample Origin TX-Farm	Purchase Order/Charge Code	
ect Title TX-107 (<3831)	Logbook # DFSNW-SAWS-H55	Ice Chest # Drum # 1 Temp.	
ped To (Lab) A6&G	Method of Shipment GovTruck	Bill of Lading/Air Bill No.	
ocol RCRA	Data Turnaround Per contract	Offsite Property No.	

Sample No.	Lab. ID	*	Date	Time	No/Type Container	Sample Analysis	Perservative
						Depth	
02057-18			8/6/02	0515	(1) 8/S	Per contract 100-101	4°C
02057-19			8/6/02	0630	(1) 8/S	" " 102-103	
					( )		
					( )		
					( )		
					( )		
					( )		
					( )		
					( )		
					( )		
					( )		
					( )		

OSSIBLE SAMPLE HAZARDS/REMARKS List all known wastes. MSDS Yes ☐ No ☑

SPECIAL INSTRUCTIONS Hold Time

Relinquished By Print	Sign	Date/Time	Received By Print	Sign	Date/Time
K.J.-Young	K.J.-Young	8/6/02 0745	Ginny LaCour	Ginny LaCour	8/6/02 0745
Relinquished By		Date/Time	Received By		Date/Time
Relinquished By		Date/Time	Received By		Date/Time
Relinquished By		Date/Time	Received By		Date/Time

Matrix *

S = Soil		DS = Drum Solids	
SE = Sediment		DL = Drum Liquids	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wipe	
W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

FINAL SAMPLE DISPOSITION — Disposal Method e.g. Return to customer, per lab procedure, used in process. Disposed By Date/Time

DFNWLSS 010

Duratek Federal Services

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C # 102286

Page 1 of 1

ctor K.J. Young	Contact/Requestor Sylvan Harold	Tel. No. 372-9414 MSIN HO-22 FAX	
Number S02-057	Sample Origin TX-Farm	Purchase Order/Charge Code	
t Title TX-107 (C3831)	Logbook # DFSNW-SAWS-155	Ice Chest # Drum #1 Temp.	
ed To (Lab) AG & G	Method of Shipment Gov Truck	Bill of Lading/Air Bill No.	
col RCRA	Data Turnaround Per contract	Offsite Property No.	

mple No.	Lab. ID	*	Date	Time	No/Type Container	Sample Analysis	Perservative
2057-20		S	8/1/02	0430	(1) S/S	Per contract Depth 114-115	4°C
2057-20		W		0200	(1) 125 P	IC Anions	4°C
2057-20		W			(1) 500 P	ICP Metals	HNO3
2057-20		W			(1) 1000 AG	Semi-VOA	4°C
2057-20		W			(1) 250 AGS	TOC	H_2SO_4
2057-20		W			(1) 1000 P	Total Alpha / Beta	HNO3
2057-20		W			(1) 1000 P	Tritium	4°C
2057-20		W	↓	↓	(3) 40 AG	VOA	HCL
					( )		
					( )		
					( )		
					( )		

SIBLE SAMPLE HAZARDS/REMARKS
ist all known wastes.

MSDS Yes ☐ No ☑

SPECIAL INSTRUCTIONS Hold Time

nquished By Print	Sign	Date/Time	Received By Print	Sign	Date/Time
K.J. Young	K.J. Young	8/7/02 0900	Ginny Lobdr	Ginny Lobdr	8/7/02 0900
nquished By		Date/Time	Received By		Date/Time
nquished By		Date/Time	Received By		Date/Time
nquished By		Date/Time	Received By		Date/Time

Matrix *

S = Soil		DS = Drum Solids	
SE = Sediment		DL = Drum Liquids	
SO = Solid		T = Tissue	
SL = Sludge		WI = Wipe	
W = Water		L = Liquid	
O = Oil		V = Vegetation	
A = Air		X = Other	

NAL SAMPLE ISPOSITION — Disposal Method e.g. Return to customer, per lab procedure, used in process. Disposed By Date/Time

DFN 010

This page intentionally left blank.

APPENDIX E

FIELD DOCUMENTATION

This page intentionally left blank.

Blow Count Form

PAGE 1 OF 12

Date: 07/01-02/02 Operator: BSE
Location: TX TANK FARM Personnel: 1217
Borehole No.: C3831 Rig: 106 Hammer: ICE 40S

Starter casing size: 7" Starter casing depth: 0.0 FT
Drive casing size/type: 4.5" Total Depth: 12.93 FT
Tip: 7.5" x 17.34" Conical: 4.75" I.D.
Joints: Welded: N/A Threaded: 4.5 PIN PILE

Depth	Blows/Ft.	Ave. Stroke	Driving time	Tip depth
0 To 1	6		15:10	
1 To 2	7		"	
2 To 3	8		"	
3 To 4	7		"	
4 To 5	8		"	
5 To 5.98	6		15:12	5.98
To				
5.98 To 6.98	7		08:21	
6.98 To 7.98	8		"	
7.98 To 8.98	8		"	
8.98 To 9.98	7		"	
9.98 To 10.93	8		08:23	10.93
To				
10.93 To 11.93	9		08:59	
11.93 To 12.93	10		"	

Prepared by: _____ Reviewed by: _____

Blow Count Form

PAGE 2 OF 12

Date: 07/02-03/02 Operator: BSE
Location: TX TANK FARM Personnel: 1217
Borehole No.: C3831 Rig: 106 Hammer: ICE 40S

Starter casing size: 7" Starter casing depth: 12.93 FT
Drive casing size/type: 4.5" Total Depth: 20.8
Tip: 7.5" X 17.34" Conical: 4.75" I.D.
Joints: Welded: N/A Threaded: 4.5 PIN PILE

	Depth	Blows/Ft.	Ave. Stroke	Driving time	Tip depth
	12.93 To 13.93	12			
	13.93 To 14.93	11		09:03	14.93
	To				
502057-01	14.93 To 16.21	3/3/1		10:09 10:11	
	To				
	14.93 To 15.97	N/A		13:22 13:25	
	To				
	15.97 To 16.97	16		13:49	
	16.97 To 17.97	15			
	17.97 To 18.97	15			
	18.97 To 19.97	14			
	19.97 To 20.8	7		13:51	20.8
	To				
502057-02	20.8 To 22.3	2/3/3		10:40 10:46	
	To				

Prepared by: _____ Reviewed by: _____

Blow Count Form PAGE 3 OF 12

Date: 07/17 Operator: BSE
Location: TX TANK FARM Personnel: 1217
Borehole No.: C3831 Rig: 106 Hammer: ICE 40S

Starter casing size: 7" Starter casing depth: 20.8 FT.
Drive casing size/type: 4.5" Total Depth: 30.43 FT.
Tip: 7.5" x 17.34" Conical: 4.75" I.D.
Joints: Welded: N/A Threaded: 4.5" PIN PILE

Depth	Blows/Ft.	Ave. Stroke	Driving time	Tip depth
20.8 To 21.8	7		11:15	
21.8 To 22.8	9			
22.8 To 23.8	12			
23.8 To 24.8	11			
24.8 To 25.8	12			
25.8 To 26.16	12		12:00	26.16
To				
26.16 To 27.16	12		12:56	
27.16 To 27.96	10		12:57	27.96
To				
27.96 To 29.21	3			
To				
27.96 To 28.43	N/A			
28.43 To 29.43	N/A			
29.43 To 30.43	11			

S02057-03

Prepared by: Reviewed by:

Blow Count Form

PAGE 4 OF 12

Date: 07/ Operator: BSE
Location: TX TANK FARM Personnel: 1217
Borehole No.: C3831 Rig: 106 Hammer: ICE 40S

Starter casing size: 7" Starter casing depth: 30.43 Ft.
Drive casing size/type: 4.5" Total Depth: 45.43 FT
Tip: 7.5" X 17.34" Conical: 4.75" I.D.
Joints: Welded: N/A Threaded: 4.5" AN PILE

Depth	Blows/Ft.	Ave. Stroke	Driving time	Tip depth
30.43 To 31.43	8			
31.43 To 32.43	12			
32.43 To 33.43	11			
33.43 To 33.90	8			
33.90 To 35.43	10			
35.43 To 36.43	14			
36.43 To 37.43	17			
37.43 To 38.43	19			
38.43 To 39.43	13			
39.43 To 40.43	13			
40.43 To 41.43	13			
41.43 To 42.43	16			
42.43 To 43.43	17			
43.43 To 44.43	15			
44.43 To 45.43	13			

Prepared by: _____ Reviewed by: _____

Blow Count Form

PAGE 5 OF 12

Date: 07/18- Operator: BSE
Location: TX TANK FARM Personnel: 1217
Borehole No.: C3831 Rig: 106 Hammer: ICE 40S

Starter casing size: 7" Starter casing depth: 45.43 FT
Drive casing size/type: 4.5" Total Depth:
Tip: 7.5" X 17.34" Conical: 4.75" ID
Joints: Welded: N/A Threaded: 4.5" PIN PILE

Depth	Blows/Ft.	Ave. Stroke	Driving time	Tip depth
45.43 To 46.43	12			
46.43 To 47.43	15			
47.43 To 48.43	11			
48.43 To 49.43	12			
To				
To				
To				
49.43 To 50.43	10			
50.43 To 51.43	17			
51.43 To 52.43	23			
52.43 To 53.43	29			
53.43 To 54.43	27			
54.43 To 55.43	20			
To				
To				

Prepared by: Reviewed by:

Blow Count Form

PAGE 6 OF 12

Date: 07/25/02 Operator: BSE
Location: TX TANK FARM Personnel: 1217
Borehole No.: C3831 Rig: 106 Hammer: ICE 40S

Starter casing size: 7" Starter casing depth: 55.43
Drive casing size/type: 4.5" Total Depth: 65.97
Tip: 7.5" X 17.34" Conical: 4.75" I.D.
Joints: Welded: N/A Threaded: 4.5" PIN PILE

	Depth	Blows/Ft.	Ave. Stroke	Driving time	Tip depth
	55.43 To 56.43	11			
	56.43 To 57.43	23			
	57.43 To 58.43	32			
	58.43 To 59.04	35			
	To				
S02057-07	59.04 To 60.24	2/2/1			
	To				
S02057-08	60.08 To 61.5	2/3/1			
	To				
	61.5 To 62.5	19			
	62.5 To 63.5	24			
	63.5 To 64.5	31			
	64.5 To 65.5	40			
	65.5 To 65.97	18			
	To				

Prepared by: Reviewed by:

Blow Count Form

PAGE 7 OF 12

Date: 7/25 Operator: BSE
Location: TX TANK FARM Personnel: 1217
Borehole No.: C3831 Rig: 106 Hammer: ICE 40S

Starter casing size: 7" Starter casing depth: 65.97
Drive casing size/type: 4.5" Total Depth: 74.05
Tip: 7.5" X 17.34" Conical: 4.75" I.D.
Joints: Welded: N/A Threaded: 4.5" PIN ALE

	Depth	Blows/Ft.	Ave. Stroke	Driving time	Tip depth
	65.97 To 66.97	35			
	66.97 To 67.19	8			
	To				
S02057-09	67.19 To 68.54	3/3/2		11:32 11:33	
	To				
S02057-10	68.43 To 69.98	2/3/1			
	To				
	67.19 To 68.19	2 Dry 14			
	68.19 To 69.19	15			
	69.19 To 70.19	14			
	70.19 To 71.06	20			
	To				
	71.06 To 72.06	34			
	72.06 To 73.06	39			
	73.06 To 74.05	40			

Prepared by: _____ Reviewed by: _____

Blow Count Form PAGE 8 OF 12

Date: 7/30/02 Operator: BSE
Location: TX TANK FARM Personnel: 1217
Borehole No.: C3831 Rig: 106 Hammer: ICE 40S

Starter casing size: 7" Starter casing depth: 74.05
Drive casing size/type: 4.5" Total Depth: 80.39
Tip: 7.5" X 17.34" Conical: 4.75" I.D
Joints: Welded: N/A Threaded: 4.5" PIN P.LE

	Depth	Blows/Ft.	Ave. Stroke	Driving time	Tip depth
S02057-11	74.05 To 76.3	2/2/2		358 400	
	To				
	74.05 To 75.05	26			
	75.05 To 76.05	33			
	76.05 To 76.73	34			
	To				
S02057-12	76.73 To 77.98	2/3/2			
	To				
S02057-13	77.76 To 79.04	2/2/1		13:20 13:21	
	To				
	76.73 To 77.73	20			
	77.73 To 78.73	19			
	78.73 To 79.73	23			
	79.73 To 80.39	30			
	To				

Prepared by: Reviewed by:

Blow Count Form PAGE 9 OF 12

Date: 7/30 Operator: BSE
Location: Personnel: 1217
Borehole No.: C3831 Rig: 106 Hammer: ICE 40S

Starter casing size: 7" Starter casing depth: 80.39
Drive casing size/type: 4.5" Total Depth: 89.3
Tip: 7.5" X 17.34" Conical: 4.75" I.D.
Joints: Welded: N/A Threaded: 4.5" PIN PILE

Depth	Blows/Ft.	Ave. Stroke	Driving time	Tip depth
80.39 To 81.39	35			
81.39 To 82.39	35			
82.39 To 83.39	29			
83.39 To 84.39	33			
84.39 To 85.05	36			
To				
85.05 To 86.3	3/2/X1			
To				
85.05 To 86.05	9		02:10	
86.05 To 87.05	27			
87.05 To 88.3	33		02:15	
To				
88.3 To 89.75	2/2/2		04:39 04:40	
To				
88.3 To 89.3	N/A			

S02057-14

S02057-15

Prepared by: Reviewed by:

Blow Count Form PAGE 10 OF 12

Date: 08/5/02 Operator: BSE
Location: TX TANK FARM Personnel: 1217
Borehole No.: C3831 Rig: 106 Hammer: ICE 40S

Starter casing size: 7" Starter casing depth: 89.3
Drive casing size/type: 4.5" Total Depth: ~~98.38~~ 97.11
Tip: 7.5" x 17.34" Conical: 4.75" I.D.
Joints: Welded: N/A Threaded: 4.5" PIN PILE

Depth	Blows/Ft.	Ave. Stroke	Driving time	Tip depth
89.3 To 90.3	22			
90.3 To 91.0	27			
To				
91.0 To 92.0	25		12:11	
92.0 To 93.05	29		12:12	
To				
502057-16 93.05 To 94.3	3/3/1		1:31 1:32	
To				
93.05 To 94.05	15			
94.05 To 95.05	38			
95.05 To 96.05	32			
96.05 To 97.11	34			
To				
502057-17 97.11 To 98.38	3/3/1		5:47 5:48	
To				

Prepared by: _____ Reviewed by: _____

Blow Count Form

Date: 08/06-07/02 Operator: BSE
Location: TX TANK FARM Personnel: 1217
Borehole No.: C3831 Rig: 106 Hammer: ICE 40S

Starter casing size: 7" Starter casing depth: ~~98.38~~ 97.11
Drive casing size/type: 4.5" Total Depth:
Tip: 7.5" X 17.34" Conical: 4.75" I.D.
Joints: Welded: N/A Threaded: 4.5" PIN PILE

	Depth	Blows/Ft.	Ave. Stroke	Driving time	Tip depth
	97.11 To 98.11	24		02:20	
	98.11 To 99.11	17			
	99.11 To 100.2	12		02:25	
	To				
S02057-18	100.2 To 101.65	4/4/3		04:35 04:37	
	To				
S02057-19	101.63 To 102.98	3/3/2			
	To				
	100.2 To 101.2	23 ~~X N/A~~			
	101.2 To 102.2	19 ~~N/A~~			
	102.2 To 103.2	20 ~~X~~ ~~1X~~			
	103.2 To 104.2	15 ~~X~~ ~~2X~~			
	104.2 To 105.2	21 ~~2X~~ ~~1X~~			
	105.2 To 106.22	~~1X~~ ~~2X~~			
	106.22 To 107.2	~~2X~~ 49			

Prepared by: Reviewed by:

Blow Count Form

Date: 08/07/02 Operator: BSE
Location: TX TANK FARM Personnel: 1217
Borehole No.: C3831 Rig: 106 Hammer: ICE 40S

Starter casing size: 7" Starter casing depth: 107.2
Drive casing size/type: 4.5" Total Depth:
Tip: 7.5" x 17.34" Conical: 4.75" I.D.
Joints: Welded: N/A Threaded: 4.5" PIN PILE

Depth	Blows/Ft.	Ave. Stroke	Driving time	Tip depth
107.2 To 108.2	~~18~~ 49			
109.2 To 110.37	~~24~~ 49			
110.37 To 111.29	53			
111.29 To 112.29	53			
113.29 To 114.12	84			
~~114.37 To 115.37~~				
114.12 To 115.37	13/10/10		3:44 3:46	
To				
To				
To				
To				
To				
To				
To				
To				

S02057-20

Prepared by: Reviewed by:

Duratek Federal Services, Inc., Northwest Operations

DRIVE **TUBULAR GOODS DUAL STRING TALLY SHEET** Page 1 of 2

DATE: 07/01/02 | WELL NUMBER: C3831 | CONTINUATION OF REPORT NUMBER:

CASING		INNER STRING		CASING		INNER STRING	
JT. NO.	LENGTH (in feet)	JT. NO.	LENGTH (in feet)	JT. NO.	LENGTH (in feet)	JT. NO.	LENGTH (in feet)
1A	1.45 (SHOE)	1B	0.82 (TIP)	19A	4.99 65.42	19B	4.99 71.08
2A	1.99	2B	4.99 (C)	20A	4.99 70.41	OFF 20B	2.0 73.08
3A	2.0 5.44	3B	5.25 11.06	OFF 21A	2.0 72.41	21B	5.0 (C) 76.08
4A	4.99 10.43	4B	5.01 (C) 16.07	22A	4.99 75.40	OFF 22B	3.0 79.08
5A	5.0 15.43	OFF 5B	4.0 20.07	OFF 23A	2.99 78.39	OFF 23B	3.0 82.08
OFF 6A	4.0 19.43	6B	5.0 21.07	OFF 24A	2.99 81.38	24B	5.0 81.08
7A	5.0 20.43	7B	5.0 (C) 26.07	25A	4.99 80.39	25B	5.0 (C) 86.08
8A	5.0 25.43	8B	5.0 31.07	26A	4.98 85.37	OFF 26B	4.0 90.08
9A	5.0 30.43	OFF 9B	2.0 33.07	OFF 27A	4.0 89.37	OFF 27B	3.0 93.08
OFF 10A	2.0 32.43	10B	5.0 (C) 36.07	OFF 28A	3.0 92.37	28B	5.0 91.08
11A	5.0 35.43	11B	5.0 41.07	29A	5.0 90.37	29B	5.01 96.09
12A	5.0 40.43	12B	5.01 (C) 46.08	30A	5.0 95.37	OFF 30B	2.0 98.09
13A	5.0 45.43	OFF 13B	4.0 50.08	OFF 31A	2.0 97.37	OFF 31B	4.0 102.09
OFF 14A	4.0 49.43	14B	5.0 51.08	OFF 32A	4.0 101.37	32B	5.0 107.09
15A	5.0 50.43	15B	5.01 (C) 56.09	33A	5.0 100.37	OFF 33B	4.0 105.09
16A	5.0 55.43	16B	5.0 61.09	OFF 34A	4.0 104.37	34B	5.01 106.10
17A	5.0 60.43	OFF 17B	3.0 64.09	35A	5.0 105.37	35B	5.0 111.10
OFF 18A	3.0 63.43	18B	5.0 66.09	36A	5.0 110.37	36B	5.0 116.10

TOTAL for Page:	FT	TOTAL for Page:	FT
TOTAL for Page:	FT	TOTAL for Page:	FT
TOTAL (ALL):	FT	TOTAL (ALL):	FT

REPORT BY: DE Skoglie
TITLE: Field Team Lead DATE: 08 07 02
SIGNATURE: David E Skoglie

REVIEWED BY: MG Gardner
TITLE: Project Manager DATE:
SIGNATURE:

DRTK-WS-003

Duratek Federal Services, Inc., Northwest Operations

TUBULAR GOODS DUAL STRING TALLY SHEET

Page 2 of 2

DATE: 08/07/02 | WELL NUMBER: C3831 | CONTINUATION OF REPORT NUMBER:

CASING		INNER STRING		CASING		INNER STRING	
JT. NO.	LENGTH (in feet)	JT. NO.	LENGTH (in feet)	JT. NO.	LENGTH (in feet)	JT. NO.	LENGTH (in feet)
1A	5.0 115.37	OFF 1B	~~3.0 119.10~~	19A		19B	
OFF 2A	~~3.0 118.37~~	2B		20A		20B	
3A		3B		21A		21B	
4A		4B		22A		22B	
5A		5B		23A		23B	
6A		6B		24A		24B	
7A		7B		25A		25B	
8A		8B		26A		26B	
9A		9B		27A		27B	
10A		10B		28A		28B	
11A		11B		29A		29B	
12A		12B		30A		30B	
13A		13B		31A		31B	
14A		14B		32A		32B	
15A		15B		33A		33B	
16A		16B		34A		34B	
17A		17B		35A		35B	
18A		18B		36A		36B	

TOTAL for Page:	FT	TOTAL for Page:	FT
TOTAL for Page:	FT	TOTAL for Page:	FT
TOTAL (ALL):	FT	TOTAL (ALL):	FT

REPORT BY: DE Skoglie
TITLE: Field Team Lead DATE: 0807 02
SIGNATURE: David C. Skoglie

REVIEWED BY: MG Gardner
TITLE: Project Manager DATE:
SIGNATURE:

DRTK-WS-003

APPENDIX F

FIELD LOGBOOK ENTRIES

This page intentionally left blank.

Project TX - Borehole (C3837) Notebook No. DFSNW-SAWS-H55
Continued from Page None

7/1/02
0800 on site at TX Farm Attended prejob - FM Hall sampler
0815 went to 200W ACES station to sign new RWP
2W-102-RV2
0830 went pipe yard to clean sampling equipment, (No steam cleaner)
1300 D. Skoglie notified us NO samples today

7-2-02
0700 Pre Job/Safety Meeting - Crew Drilled To 6' on 7-1-02 Sampler JG Hogan JG Hogan
New SAF # 302-057 Borehole # TX-107 C3837
0810 Advancing Borehole
0900 Hole advanced to 14.93' - Tripping out tools
0943 Attaching Split Spoon - Tripping into Hole
1010 Drove Sample S02057-01 From 14.93-16.21' took seven blows - Tripping out of Hole
1033 Placed S/S in Drum - No Contamination/moisture Detected. No Soil Evident at Head End. Not 100% Full.
1050 Rig Down - Fitting Problem - Left site to clean equipment.
1330 D Skoglie called - No More Samples Today
1400 Shipping Sample To 3750

7-3-02
0730 on site at TX Farm Attended Prejob - FM Hall sampler
0900 Tripped tools out Attaching sampler JG Hogan sampler
0930 cable on Drill rig broke down time
0946 went to pipe yard to clean equipment
1043 Driving sample S02057-02 From 20.8 - 22.3 Took 8 Blows
Tripping out of Hole
1133 placed S/S in drum - no contamination/moisture Detected soil Evident At Headend - 100% Full
1138 D. Skoglie + Driller acknoledged possible Bent or Broken upper pulley shaft
1140 NO more samples today
1400 Shipping sample To 3750

Continued on Page 31

Read and Understood By
J.J. Young Signed 7/15/02 Date Signed Date

oject TX-107 Borehole (3634) Notebook No. DFSNW-SAWS-HSS

ntinued from Page 31

7/18/02

0710 - On Site at TX Farm attended prejob. K.J. Young sampler
0750 - Advanced Borehole to 28.80 ft Tripped out of hole
1000 - Attached split spoon, (Different lubeaction used on Drive rod.)
1021 - Drove sampler S02057-03 to 27.96 to 29.21 ft
No Contamination / moisture detected No Soil
At Head and, not 100% full, placed in Drum #1
1119 - No more sampling casing stuck in bore Hole
1310 - Shipped sample to 3750 LAB

7/22/02 - On Site at TX Farm (0650) attended prejob
K.J. Young sampler
0745 - DOE inspection found broken flange, on hold to make repairs.
1320 - Drill rig repaired
1340 - Advanced Borehole to 45.06 ft Tripped out of hole.
1410 - Attached split spoon
1500 - Drove sampler S02057-04, 45.06 to 46.39 ft
No contamination / moisture detected 100% full
1520 - Collected sample in Drum #1
1540 - Shipped sample to 3750 LAB

7/23/02.

0710 - On Site at TX Farm, Attended prejob. K.J. Young (sampler)
0637 - On hold waiting for HPT.
0939 - Advanced CASING to 51 ft
1055 - Attached split spoon.
1142 - Drove sampler S02057-05
No contamination / moisture detected 100% Full
1200 - Attached split spoon (BACK to back samples)
1240 - Drove Sample S02057-06
1322 - Collected sample S02057.06
No contamination / moisture detected 100% Full
1400 - Advanced CASING to next sample depth 59 ft
1420 - Acid sampler (split spoon).
1506 - Drove sampler S02057-07 59-60 ft.
1533 - Collected sample, 1 ft to ship to LAB.

Continued on Page 32

Read and Understood By

K.J. Young — 7/23/02
Signed — Date

Signed — Date

Project TX - Borehole (C 3831) Notebook No. DFSNW-SAWS-H55

Continued from Page 31

1533 - No Moisture / contamination detected on sample 100% Full

7/24/02

0715 - On Site, Attended projob / Safety meeting.
0810 - On hold waiting for HPT. K.J. Young Sample
0830 - Added sample to drill string.
0935 - collected sample S02057-08 60-61 ft
No contamination, H_2O standing At top of sampler.
100% Full.
0950 - On hold to repair drill rig.
1506 - No more sampling for 7/24/02, left to Ship to 3720 Lab.

7/25/02

0700 - On Site Attended projob K.J. Young Sample
0720 - On hold waiting for HPT.
1103 - Attached sample to drill string.
1215 - collected sample S02057-09 67-68 Ft
No contamination, No Moisture, 100% full.
1340 - Attached sample to drill string
1500 - collected sample # S02057-10 69-70 ft
1540 - completed sampling, shipped samples to 3720 LAS

7/26/02

0720 - On Site Attended projob K.J. Young Sampler
0745 - on hold waiting for HPT
0830 - Performing Drill rig inspection.
0905 - Drill rig broken No samples collected

7/28/02 - K.J. Young Sample
2340 - On Site Attended projob, work shift switched to grave yard shift, due to high heats in TX Farm during day light hours
7/29/02 - Added sampler to drill string (0200)
0250 - drove sampler 74-75ft S02057-11
0335 - collected sample

Continued on Page 33

Read and Understood By

K.J. Young — Signed
7/29/02 — Date
Signed
Date

Project TX - Bore hole (C3831) Notebook No. RFSHW-SAW-1455 33
Continued from Page 32

Sample was 100% full, no moisture, no contamination
0440 - started driving casing to next sample point.
0600 - Added Sampler to drill string # S02057-12 77-78 Ft
0631 - Drove Sampler.
0710 - Collected Sample, No moisture / contamination 100% recovery
0719 - Left to Ship Samples to 3720 Lab.

7/29/02 - On Site (1111) waiting for projob. K.J. Young Sampler
1248 - Added Sample to drill string # S02057-13 78Ft - 79Ft
7/30/02
0120 - Drove Sampler.
0150 - Collected Sample, No moisture / contamination 100% recovery
0540 - Added CASING started driving to next depth.
0735 - Left TX-Farm to Ship 1 Sample to 3720 Lab.

7/30/02 -
1105 - On Site attended projob K.J. Young Sampler.
1141 - On hold high winds in TANK Farms 20-30 mph.
0720 - No Samples collected winds stayed to high. (7/31/02)

7/31/02 -
2310 ~~1140~~ BY - On Site to attended projob K.J. Young Sampler.
2422 ~~1222~~ BY - Added Sampler # S02057-14 to drill string (8/01/02)
Sampling At 85-86 Ft.
2453 ~~1253~~ BY - Drove Sampler.
8/1/02 - 0130 - collected Sample - S02057-14 into Drum # 1
No contamination, no moisture 90% Full
0240 - Driving casing to next depth -
0320 - Added Sampler to drill string # S02057-15 Sample
At 88 to 89 Ft.
0444 - Drove Sample -
0520 - collecte Sample - 100% Full No Moisture / contamination
0540 - left to 5-bay to pick up clean equipment
0605 - Shipped Samples to 3720 Lab.

8/01/02 - 2305 - On Site TX Farm,
No Samples collected this shift high winds
Continued on Page 34

Read and Understood By

K.J. Young Signed 8/1/02 Date Signed Date

roject TX-Borehole (C3831) Notebook No: DFSNW-SAWS-455
ontinued from Page 33

8/04/02
2304 - On Site waiting for projob K.J.-Young Sampler.
2355 - Attended projob, took samplers into Tank-Farms
2410 - Drove casing to next depth
8/05/02
0105 - Added sample # S02057-16 to drill string.
0205 - collect sample, 100% full, No contamination No Moisture 93-94 ft.
0420 - Drove casing to next depth
0515 - Added sample # S02057-17 to drill string
0550 - Drove sample At 97-98 ft
0630 - collect sampler 100% full, No contamination No Moisture.
0720 - left TX-Farm to ship samples to 3720 Lab.
8/05/02
2310 - On Site waiting for projob K.J. Young Sample.
2400 - on hold for high winds
8-06/02
0225 - Drove casing to next sample depth
0314 - Added sample # S02057-18 to drill string
0425 - Drove sampler to 100-101 ft.
0515 - collected Sample 100% full, no contamination No Moisture.
0520 - Added sampler # S02057-19 to drill string.
0600 - Drove sampler to 102-103 ft
0630 - collected sample 100% full, no contamination no moisture.
0710 - left TX-Farm to ship samples to 3720 Lab.
8/06/02
2300 On Site waiting for projob K.J. Young Sample
2420 - Added casing And drove to next sample point
8/07/02 - 0200 Collected Equipment Blank S02057-21
0240 - Added sampler to drill string # S02057-20
0315 - drove sampler to 114-115 ft
0430 - collected sample 90% full, no contamination, No Moisture, end of sampling for this site, sampler will drive no further.

Continued on Page 35

Read and Understood By

K.J.-Young Signed 8/7/02 Date Signed Date

This page intentionally left blank.

APPENDIX G

EQUIPMENT CLEANING FORMS

This page intentionally left blank.

6268 CLEANING FACILITY

EQUIPMENT CHECK OUT FORM

QUANTITY	ITEM	CUSTOMER	PROJECT	TPCN or WORK ORDER
20	Complete Split Spoons	H. Sydnor	TX-107	

*All equipment has been cleaned per ES-SSPM-001 SP 2-5, "Laboratory Cleaning of RCRA/CERCLA Sampling Equipment.

Custodian Signature: K.J. Yancy Print Name: K.J. Yancy Date: 7/31/02

Customer Signature:_____ Print Name:_____ Date:_____

6268 CLEANING FACILITY

EQUIPMENT CHECK IN FORM

QUANTITY	ITEM	CUSTOMER	PROJECT
20	Split Spoon / liners	Harold Synder	TX-107 C3831

CUSTOMER INFORMATION:

The equipment that is being submitted for cleaning, to the best of my knowledge, meets the following criteria for acceptance into the 6268 cleaning facility.

✓ Is new equipment that has never been utilized for field sampling.

___ The equipment has been utilized for field sampling inside of a radiologically controlled area, but has been "free released" by field radiological control technicians.
If so, survey number:_____RCT signature:_____Date:_____

___ The equipment has been utilized for field sampling, but was not utilized a radiologically controlled area.

Customer:_____Print Name:_____Date:_____

RECEIPT INFORMATION

Receiver: K. J. Young Print Name: [signature] Date: 6/20/02

APPENDIX H

WASHINGTON STATE DEPARTMENT OF ECOLOGY DOCUMENTATION

This page intentionally left blank.

WASHINGTON STATE DEPARTMENT OF ECOLOGY

Notice of Intent to Construct a
GEOTECHNICAL SOIL BORING

S 00631

This form must be received by the Department of Ecology72 hours prior to construction of soil boring. Complete this form and mail to Department of Ecology, Water Resources Program, Well Drilling Unit, P.O. Box 47600, Olympia, WA 98504-7600. Instructions for filling out this form are printed on the back.

1. Property Owner U.S. Department of Energy Phone No. (509) 373 9630
   Address (include city, state, zip) 825 Jadwin Ave. Richland, WA. 99352
2. Agent (if different from #1) DURATEK Federal Services NW Phone No. (509) 372 8029
   Address (include city, state, zip) 345 Hills ST., Richland, WA. 99352
3. Project Name TX VADOSE ZONE PROJECT, BORING # C3831
4. Well Location: NE 1/4 of the SW 1/4 Section 1 Township 12N Range 25 (EWM) or WWM (circle one)
   Address (if known) HANFORD Site, 200 West Area, TX TANK FARM
5. Location of Well(s)

☐ Adams County	01-ERO	☐ Grays Harbor County	14-SWR	☐ Pierce County	27-SWR
☐ Asotin County	02-ERO	☐ Island County	15-NWR	☐ San Juan County	28-NWR
■ Benton County	03-CRO	☐ Jefferson County	16-SWR	☐ Skagit County	29-NWR
☐ Chelan County	04-CRO	☐ King County	17-NWR	☐ Skamania County	30-SWR
☐ Clallam County	05-SWR	☐ Kitsap County	18-NWR	☐ Snohomish County	31-NWR
☐ Clark County	06-SWR	☐ Kittitas County	19-CRO	☐ Spokane County	32-ERO
☐ Columbia County	07-ERO	☐ Klickitat County	20-CRO	☐ Stevens County	33-ERO
☐ Cowlitz County	08-SWR	☐ Lewis County	21-SWR	☐ Thurston County	34-SWR
☐ Douglas County	09-CRO	☐ Lincoln County	22-ERO	☐ Wahkiakum County	35-SWR
☐ Ferry County	10-ERO	☐ Mason County	23-SWR	☐ Walla Walla County	36-ERO
☐ Franklin County	11-ERO	☐ Okanogan County	24-CRO	☐ Whatcom County	37-NWR
☐ Garfield County	12-ERO	☐ Pacific County	25-SWR	☐ Whitman County	38-ERO
☐ Grant County	13-ERO	☐ Pend Oreille County	26-ERO	☐ Yakima County	39-CRO

6. Total number of borings to be constructed 1 7. Approx soil boring construction date MAY 01, 2002
8. Well Drilling Co Name BLUE STAR ENTERPRISES Phone No (509) 946 9388
9. Well Driller's Name MR. Kelly OLSON Driller's License No 1217
10. Contractor's L & I Registration No BLUESEI 980C6
11. Please fill out the portion below carefully. The return address label must contain the name and address of the person submitting this notification. This portion will be validated and returned to them as proof of notification. Send the entire form to Department of Ecology, Water Resources Program, Well Drilling Unit, P.O. Box 47600, Olympia, WA 98504-7600.

This notification number must be provided to your well driller: S 00631

Submit by (return address)

Name MR. MARTIN G. GARDNER
Mailing Address 345 Hills ST.
City Richland State WA Zip 99352

Agency Validation

Date _____

ECY 040-55 (10/97)

WATER WELL REPORT

STATE OF WASHINGTON ECOLOGY — Original & 1st copy - Ecology, 2nd copy - owner, 3rd copy - driller

Construction/Decommission ("x" in circle)
○ Construction
(X) Decommission *ORIGINAL CONSTRUCTION Notice of Intent Number* S00631

CURRENT
Notice of Intent No. S00631/A23473
Unique Ecology Well ID Tag No. N/A
Water Right Permit No. N/A
Property Owner Name US Department of Energy
Well Street Address 825 Jadwin
City Richland County: Benton
Location NE 1/4- 1/4 SW 1/4 Sec. 1 Twn. 12 R. 25 (EWM) or WWM *circle one*
Lat/Long: (s,t,r still REQUIRED) 46° 33' 18.36039" N Lat Deg Lat Min/Sec; 119° 37' 46.87273" W Long Deg Long Min/Sec
Tax Parcel No. N/A

PROPOSED USE: ☐ Domestic ☐ Industrial ☐ Municipal ☐ DeWater ☐ Irrigation ☐ Test Well ☒ Other

TYPE OF WORK: Owner's number of well (if more than one) C3831
☒ New Well ☐ Reconditioned *Method:* ☐ Dug ☐ Bored ☐ Driven ☐ Deepened ☐ Cable ☐ Rotary ☐ Jetted

DIMENSIONS: Diameter of well 7.5 inches, drilled 115.37 ft.
Depth of completed well 0.0 ft.

CONSTRUCTION DETAILS
Casing Installed: ☐ Welded ____" Diam. from ____ ft. to ____ ft.
☐ Liner installed ____" Diam. from ____ ft. to ____ ft.
☒ Threaded 7.0" Diam. from 0 ft. to 114.12 ft.

Perforations: ☐ Yes ☒ No
Type of perforator used
SIZE of perfs ____ in. by ____ in. and no. of perfs ____ from ____ ft. to ____ ft.

Screens: ☐ Yes ☒ No ☐ K-Pac Location
Manufacturer's Name
Type Model No.
Diam. Slot Size from ft. to ft.
Diam. Slot Size from ft. to ft.

Gravel/Filter packed: ☐ Yes ☒ No ☐ Size of gravel/sand
Materials placed from ft. to ft.

Surface Seal: ☐ Yes ☒ No To what depth? ft
Materials used in seal
Did any strata contain unusable water? ☐ Yes ☐ No
Type of water? Depth of strata
Method of sealing strata off

PUMP: Manufacturer's Name
Type: H.P.

WATER LEVELS: Land-surface elevation above mean sea level ft.
Static level ft. below top of well Date
Artesian pressure lbs. per square inch Date
Artesian water is controlled by N/A (cap, valve, etc.)

WELL TESTS: Drawdown is amount water level is lowered below static level.
Was a pump test made? ☐ Yes ☒ No If yes, by whom?
Yield: gal./min. with ft. drawdown after hrs.
Yield: gal./min. with ft. drawdown after hrs.
Yield: gal./min. with ft. drawdown after hrs.
Recovery data (time taken as zero when pump turned off)(water level measured from well top to water level)

Time	Water Level	Time	Water Level	Time	Water Level

Date of test
Bailer test gal./min. with ft. drawdown after hrs.
Airtest gal./min. with stem set at ft. for hrs.
Artesian flow g.p.m. Date
Temperature of water Was a chemical analysis made? ☐ Yes ☐ No

CONSTRUCTION OR DECOMMISSION PROCEDURE
Formation: Describe by color, character, size of material and structure, and the kind and nature of the material in each stratum penetrated, with at least one entry for each change of information. Indicate all water encountered. (USE ADDITIONAL SHEETS IF NECESSARY.)

MATERIAL	FROM	TO
Characterization Boring		
As-Built Condition:		
Sand/Gravel	0	108.22
Caliche	108.22	~~115.37~~
		115.37
Total Depth 115.37 ft BGS		
Back Pull Casing and Fill		
Borehole With Bentonite		
Crumbles		
Elevation: 205.68 ft		

Start Date July 1, 2002 Completed Date August 14, 2002

WELL CONSTRUCTION CERTIFICATION: I constructed and/or accept responsibility for construction of this well, and its compliance with all Washington well construction standards. Materials used and the information reported above are true to my best knowledge and belief.

☐ Driller ☒ Engineer ☐ Trainee Name (Print) D. F. Skoglie
Driller/Engineer/Trainee Signature David F. Skoglie
Driller or Trainee License No. 1580

If trainee, licensed driller's Signature and License no.

Drilling Company Duratek Federal Services, Inc.
Address 345 Hills Street
City, State, Zip Richland, WA 99352
Contractor's Registration No. DURATFS990K5 Date 9/11/2002

Ecology is an Equal Opportunity Employer. ECY 050-1-20 (Rev 4/01)

WASHINGTON STATE DEPARTMENT OF ECOLOGY

Notification Number

A 30621

Notice of Intent to DECOMMISSION A WELL

This form must be received by the Department of Ecology with the required fees three days before you decommission a well. Complete both sides of this form. Submit one form for each job site. Mail this form to Department of Ecology, Water Resources Program, Well Drilling Unit, P.O. Box 47600, Olympia, WA 98504-7600. Instructions for filling out this form are printed on the back.

1. Property Owner: U.S. Department of Energy Phone No. (509) 373-9630
   Address: 825 Jadwin Avenue, Richland, WA 99352
2. Agent (if different from #1): Duratek Federal Services, Inc. Phone No. (509) 372-8029
   Address: 345 Hills Street, Richland, WA 99352
3. Job Site/Well Location: NE ¼ of the SW ¼ Section 1 Township 12 Range 25 (E.WM or W.WM) *(circle one)*
   Street Address (if known): Hanford Site, 200 West Area, TX Tank Farm
4. Well Identification No: C3831
5. Location of Well(s): *(please check county)*

☐	Adams County	01-ERO	☐	Grays Harbor County	14-SWR	☐	Pierce County	27-SWR
☐	Asotin County	02-ERO	☐	Island County	15-NWR	☐	San Juan County	28-NWR
☒	Benton County	03-CRO	☐	Jefferson County	16-SWR	☐	Skagit County	29-NWR
☐	Chelan County	04-CRO	☐	King County	17-NWR	☐	Skamania County	30-SWR
☐	Clallam County	05-SWR	☐	Kitsap County	18-NWR	☐	Snohomish County	31-NWR
☐	Clark County	06-SWR	☐	Kittitas County	19-CRO	☐	Spokane County	32-ERO
☐	Columbia County	07-ERO	☐	Klickitat County	20-CRO	☐	Stevens County	33-ERO
☐	Cowlitz County	08-SWR	☐	Lewis County	21-SWR	☐	Thurston County	34-SWR
☐	Douglas County	09-CRO	☐	Lincoln County	22-ERO	☐	Wahkiakum County	35-SWR
☐	Ferry County	10-ERO	☐	Mason County	23-SWR	☐	Walla Walla County	36-ERO
☐	Franklin County	11-ERO	☐	Okanogan County	24-CRO	☐	Whatcom County	37-NWR
☐	Garfield County	12-ERO	☐	Pacific County	25-SWR	☐	Whitman County	38-ERO
☐	Grant County	13-ERO	☐	Pend Oreille County	26-ERO	☐	Yakima County	39-CRO

6. Please fill out the portion below carefully. The return address label must contain the name and address of the person submitting this notification. This portion will be validated and returned to them as proof of notification. Send the entire form to Department of Ecology, Water Resources Program, Well Drilling Unit, P.O. Box 47600, Olympia, WA 98504-7600.

This notification number must be provided to your well driller:

A 30621

Submitted by (return address)

Name Dave Skoglie
Mailing Address 210 Austin Drive
City West Richland State WA Zip 99353

Agency Validation
Date:

Continued on back ⟶

ECY 040-24 (Rev. 10/96)

7. Approximate well construction start date: August 13, 2002

Approximate well construction end date: August 14, 2002

8. Well Drilling Company: Blue Star Enterprises Phone: (509) 946-9388

9. Well Contractor's Name: Duratek Federal Services, I Driller's License No. 1580

10. Contractor's Registration No: DURATFS 990K5

(registration under Labor & Industries)

AGENCY USE

Your notification could not be validated. Please return with:

_____ **Well location (see #3).**

_____ **Name/Address of property owner (see #1).**

Instructions

Item 1: *Property owner's name, daytime phone number and mailing address. Omission of this information may result in processing delays.*

Item 2: *Agent's name. If your driller, consultant or another person is acting as your agent and submitting this notification fee, please provide their name, address and daytime phone number. A payment receipt will be mailed to them.*

Item 3: *Please provide the Township, Range, Section, quarter section, and quarter/quarter section where the well is located. This information can be found in your property legal description or the County Assessor's office. Also, if you have a street address for this property, please provide this information.*

Item 4: *If the well has a Department of Ecology Well Identification tag on it, record the six-character identifier here.*

Item 5: *Check the county in which the well is located.*

Item 6: *Please print when filling out the return address label. It should include the name and mailing address of the person submitting the form. Mail the entire form to the Department of Ecology, Water Resources Program, Well Drilling Unit, P.O. Box 47600, Olympia, WA 98504-7600.*

Items 7-10: *This information should be obtained from your driller.*

For Assistance:
Contact the Department of Ecology Regional Office where the well is located (see codes in Item #5).

Central Regional Office	*(CRO):*	*(509) 575-2490*	*TDD: (509) 454-7673*
Eastern Regional Office	*(ERO):*	*(509) 456-2926*	*TDD: (509) 458-2055*
Northwest Regional Office	*(NWR):*	*(206) 649-7000*	*TDD: (206) 649-4259*
Southwest Regional Office	*(SWR):*	*(360) 407-6300*	*TDD: (360) 407-6306*

Ecology is an Equal Opportunity and Affirmative Action Employer.
For special accommodation needs, contact the Water Resources Program at (360) 407-6600. The TDD number is (306) 407-6006.

APPENDIX I

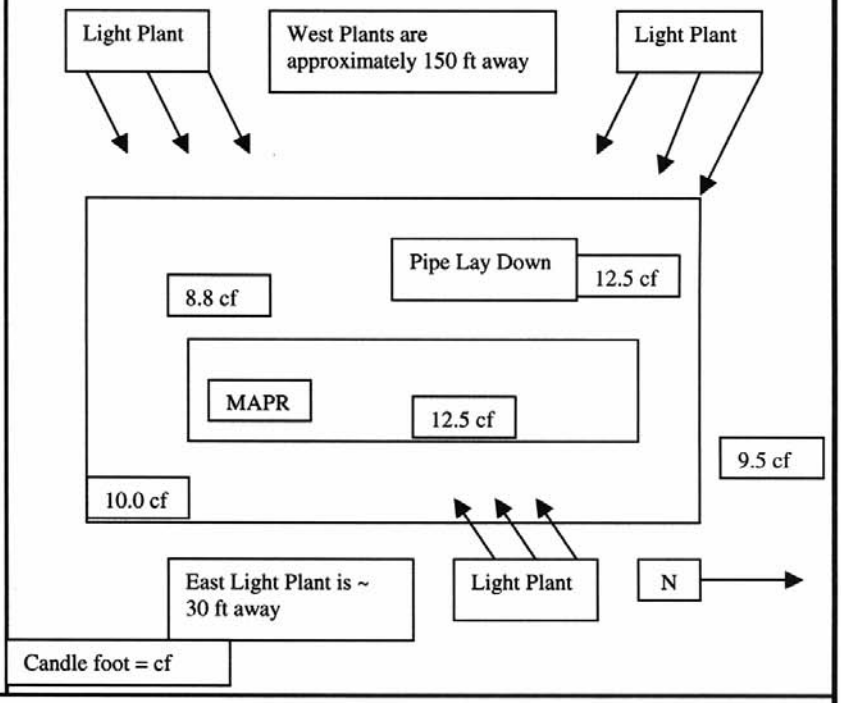
HEALTH AND SAFETY MONITORING

This page intentionally left blank.

Duratek
Federal Services

Date: August 1, 2002 Time: 01:15 am Location: TX Farm	Inspectors: Jason Sweesy/Duratek Safety
TX-TY Borehole Drilling	**Report #** 02-013a

Background: Borehole drilling and sampling for characterization and migration of plumes found underground.

Citation	Findings
1. Illumination	

COMMENTS:
Finding: According to 29 cfr 1926.56 requires at least 5 foot candles of illumination on general sites.

Action: Placement of two light plants on the east side and one light plant on the west side of the drill rig during nighttime activity. Monitoring of illumination with a foot candle meter showed illumination of 8.8 foot candles at the furthest work area in the zone. Illumination on the deck was measured at 12.5 candle foot.

Page 1 of 1
Report #02-013a